

1. What are decisive operations?
  - a. Decisive operations lead directly to the accomplishment of the mission. Commanders may combine the decisive-shaping-sustaining framework and the deep close- security framework when this aids in visualizing and describing the operation. The decisive operation need not be a close operation. Shaping operations create and preserve conditions for the success of decisive operations. Commanders may designate more than one shaping operation. Sustaining operations enable the decisive operation or shaping operation by generating and maintaining combat power.
2. What is the law of war?
  - a. Leaders at all levels ensure their Soldiers operate according to the law of war. This also is called the law of armed conflict and is the body of international law that regulates the conduct of armed hostilities. The purposes of the law of war are to protect combatants and noncombatants from unnecessary suffering, make the transition to peace easier, and safeguard the rights of enemy prisoners of war (EPWs), detainees, the wounded and sick, and civilians.
3. What 4 principles govern armed conflict?
  - a. Four important principles govern armed conflict: military necessity, distinction, proportionality, and unnecessary suffering. Military necessity permits combat forces to engage in those acts necessary to accomplish a legitimate military objective and not otherwise forbidden by the law of armed conflict. Distinction means discriminating between lawful combatant targets and noncombatant targets. The latter may include civilians, civilian property, EPW, and wounded personnel who are out of combat. Proportionality requires that the anticipated loss of life and damage to property incidental to attacks must not be excessive in relation to the concrete and direct military advantage expected to be gained. The principle of unnecessary suffering requires military forces to avoid inflicting gratuitous violence on the enemy. Soldiers consider these principles when planning and executing operations
4. What are rules of engagement?
  - a. ROE are directives issued by competent military authority that delineate the circumstances and limitations under which U.S. forces initiate or continue combat engagement with other forces encountered. These directives may take the form of execute orders, deployment orders, memorandum of agreement, or plans. ROE always recognizes a Soldier's inherent right of self-defense. These rules vary between operations and may change during an operation. Adherence to them ensures Soldiers act consistently with international law, national policy, and military regulations.
5. How does discipline impact the success of combat operations?
  - a. Soldiers use discipline when applying lethal and nonlethal action, a necessity for operations. Disciplined actions and decisions are a hallmark of our Army profession. In fact, the ethical, effective, and efficient accomplishment of our mission depends on the freedom to exercise disciplined initiative under mission command. Today's threats challenge the morals and ethics of Soldiers. Often an

enemy feels no compulsion to respect international laws or conventions and commits atrocities simply to provoke retaliation. The enemy takes any loss of discipline on the part of Soldiers, distorts and exploits it in propaganda, and magnifies it through the media. The ethical challenge rests heavily on small-unit leaders who maintain discipline and ensure that Soldiers' conduct remains within moral and ethical boundaries that are in alignment with what is expected from the Army profession.

6. What are the soldier's rules?
  - a. Soldier's Rules are—
  - b. Soldiers fight only enemy combatants.
  - c. Soldiers do not harm enemies who surrender. They disarm them and turn them over to their superior.
  - d. Soldiers do not kill or torture any personnel in their custody.
  - e. Soldiers collect and care for the wounded, whether friend or enemy.
  - f. Soldiers do not attack medical personnel, facilities, or equipment.
  - g. Soldiers destroy no more than the mission requires.
  - h. Soldiers treat civilians humanely.
  - i. Soldiers respect private property and possessions.
  - j. Soldiers should do their best to prevent violations of the law of war.
  - k. Soldiers report all violations of the law of war to their superior.
7. How can IRPSs be organized?
  - a. The Infantry rifle platoon and its squads can be assigned alone or as a combined arms force based upon METT-TC. Its effectiveness increases through the synergy of combined arms including tanks, Bradley fighting vehicles (BFVs) and Stryker Infantry carrier vehicles (ICVs), engineers, and other support elements. The Infantry rifle platoon and squad as a combined arms force can capitalize on the strengths of the team's elements while minimizing their limitations.
8. Where can infantry units operate?
  - a. Infantry units can operate in all terrain and weather conditions. They might be the dominant force because of rapid strategic deployment. In such cases, they can take and gain the initiative early, seize and retain or control terrain, and mass fires to stop the enemy. Infantry units are particularly effective in urban terrain, where they can infiltrate and move rapidly to the rear of enemy positions. The leader can enhance their mobility by using helicopters and airlift.
9. Where do considerations for infantry unit deployment result from?
  - a. The fundamental considerations for employing Infantry units result from the missions, types, equipment, capabilities, limitations, and organization of units. Other capabilities result from a unit's training program, leadership, morale, personnel strengths, and many other factors. These other capabilities constantly change based on the current situation.
10. How is the infantry fire team organized?
  - a. The Infantry squad fire team is designed as a self-contained team. The automatic rifleman provides an internal base of fire with the ability to deliver sustained suppressive small arms fire on area targets. The rifleman provides accurate,

lethal direct fire for point targets. The rifleman may be issued an SLM. The grenadier provides high explosive (HE) indirect fires for both point and area targets. A team leader leads his team by example.

11. What is the infantry squad used for?

- a. Currently, there is only one type of Infantry squad and its primary role is a maneuver or base-of-fire element. While the platoon's task organization may change, the Infantry squad's organization generally remains standard.

12. What is the structure of an infantry squad?

- a. The Infantry squad is a model for all tactical task organizations. It is comprised of two fire teams and a squad leader. It can establish a base of fire, providing security for another element, or conducting fire and movement with one team providing a base of fire, while the other team moves to the next position of advantage or onto an objective. The squad leader has two subordinate leaders to lead the two teams, freeing him to control the entire squad.

13. What is the combat load for SLMs?

- a. The combat load for an SLM is two per rifle squad. Either two M72-series light antitank (AT) weapon, M136-series antitank (AT4), M141 bunker defeat munitions (BDMs), or a combination of are normally issued to the rifleman.

14. What is the purpose of the weapons squad?

- a. The Infantry weapons squad provides the primary base of fire for the platoon's maneuver. It is composed of two medium machine gun teams, two medium CCMS teams, and a weapons squad leader.

15. What is the structure and purpose of the machine gun team?

- a. The two-man medium machine gun team is composed of a gunner and an assistant gunner. The weapon squad has two medium machine gun teams. These teams provide the platoon with medium-range area suppression at ranges up to 1100 meters during day, night, and adverse weather conditions

16. What is the medium machine gun commonly used by gun teams?

- a. When referring to the medium machine gun in this manual, it refers to the M240-series machine gun. There are several variants of the M240. They are the M240, M240B, M240C, M240D, M240E, M240G, M240H and M240L, each supporting their specific platform. The M240B is the standard Infantry medium machine gun of the U.S. Army. The M240L machine gun is the next generation medium machine gun, currently being fielded to replace the M240B.

17. What is the structure and purpose of the close combat missile team?

- a. The two-man close combat missile team is composed of a gunner and an ammunition handler. Currently, the team uses the Javelin missile system. The weapon squad has two close combat missile system teams. This system provides the platoon with an extremely lethal fire-and-forget, man-portable, direct- and top-attack capability to defeat enemy armored vehicles and destroy fortified positions at ranges up to 2000 meters.
- b. The Javelin has proven effective during day, night, and adverse weather conditions.

18. What is the Platoon Leader responsible for?

- a. The platoon leader leads his Soldiers by personal example and is responsible for all the platoon does or fails to do, having complete authority over his subordinates. This centralized authority enables him to maintain unit discipline, unity, and to act decisively. He must be prepared to exercise initiative within his company commander's intent and without specific guidance for every situation. The platoon leader knows his Soldiers, how to employ the platoon, its weapons, and its systems. Relying on the expertise of the platoon sergeant, the platoon leader regularly consults with him on all platoon matters.

19. What is the role of the PL during operations?

- a. During operations, the platoon leader—
- b. Leads the platoon in supporting the higher headquarters missions. He bases his actions on his assigned mission and intent and concept of his higher commanders. Conducts troop leading procedures. Maneuvers squads and fighting elements. Synchronizes the efforts of squads. Looks ahead to the next "move" of the platoon. Requests, controls, and synchronizes supporting assets. Employs mission command systems available to the squads and platoon. Checks with squad leaders ensuring 360-degree, three-dimensional security is maintained. Checks with weapons squad leader controlling the emplacement of key weapon systems. Issues accurate and timely reports. Places himself where he is most needed to accomplish the mission. Assigns clear tasks and purposes to the squads. Understands the mission and commander's intent two levels up (company and battalion). Receives on-hand status reports from the platoon sergeant and squad leaders during planning. Coordinates and assists in the development of the obstacle plan. Oversees and is responsible for property management.

20. How does the PL develop situational awareness?

- a. The platoon leader works to develop and maintain situational understanding. This is a product of four elements. First, the platoon leader attempts to know what is happening in present terms of friendly, enemy, neutral, and terrain situations. Second, he knows the end state representing mission accomplishment. Third, he determines the critical actions and events occurring to move his unit from the present to the end state. Finally, he assesses the risk throughout.

21. What is the PSG responsible for?

- a. The platoon sergeant is the platoon's most experienced NCO and second-in-charge, accountable to the platoon leader for leadership, discipline, training, and welfare of the platoon's Soldiers. He sets the example in everything. He assists the platoon leader by upholding standards and platoon discipline. His expertise includes tactical maneuver, employment of weapons and systems, sustainment, administration, security, accountability, protection, warfighting functions, and Soldier care.

22. What are the duties of the PSG?

- a. As the second-in charge, the platoon sergeant assumes no formal duties except those prescribed by the platoon leader. However, the platoon sergeant traditionally— Ensures the platoon is prepared to accomplish its mission, which

includes supervising pre combat checks and inspections. Updates platoon leader on appropriate reports and forwards reports needed by higher headquarters. Prepares to assume the role and responsibilities of the platoon leader. Takes charge of task-organized elements in the platoon during tactical operations, which may include but is not limited to, quartering parties, support elements in raids or attacks, and security patrols. Monitors the morale, discipline, and health of the platoon. Positions where best needed to help the engagement (either in the base of fire or with the assault element). Receives squad leaders' administrative, logistical, and maintenance reports, and requests rations, water, fuel, and ammunition. Requests logistical support from the higher headquarters, and usually coordinates with the company's first sergeant or executive officer. Ensures Soldiers maintain all equipment. Ensures ammunition and supplies are properly and evenly distributed after the platoon consolidates on the objective and while the platoon reorganizes. Manages the unit's combat load prior to operations, and monitors logistical status during operations. Establishes and operates the unit's casualty collection point (CCP). This includes directing the platoon medic and aid/litter teams in moving casualties, maintains platoon strength level information, consolidates and forwards the platoon's casualty reports, and receives and orients replacements. Employs the available digital mission command systems to the squads and platoon. Ensures Soldiers distribute supplies according to the platoon leader's guidance and direction. Accounts for Soldiers, equipment, and supplies. Coaches, counsels, and mentors Soldiers. Upholds standards and platoon discipline. Understands the mission and commander's intent two levels up (company and battalion).

23. What is the WSL responsible for?

- a. The weapons squad leader leads his teams by personal example. He has complete authority over his subordinates and overall responsibility for those subordinates' actions. This centralized authority enables him to act decisively while maintaining troop discipline and unity. Under the fluid conditions of modern warfare, he accomplishes assigned missions using disciplined initiative without needing constant guidance from higher headquarters.

24. What are the duties of the WSL?

- a. The weapons squad leader is usually the senior squad leader, second only to the platoon sergeant, and performs all the duties of the rifle squad leader. In addition, the weapons squad leader Controls fires and establishes fire control measures. Recommends medium machine gun employment to the platoon leader. Coordinates directly with the platoon leader for medium machine gun base-of-fire effect, and plans accordingly. Monitors ammunition expenditure. Coordinates directly with the platoon leader in placement of the Javelin-CCMS to best cover armored avenues of approach in the defense and overwatch positions in the attack. Employs mission command systems available to the squad and platoon. Performs the role of the platoon sergeant as required. Conducts troop leading procedures. Understands the mission two levels up (platoon and company).

25. What is the role of the squad leader?

- a. The squad leader directs team leaders and leads by personal example. He has authority over his subordinates and overall responsibility of those subordinates' actions. Centralized authority enables him to act decisively while maintaining troop discipline and unity. Under the fluid conditions of close combat, the squad leader accomplishes assigned missions without constant guidance from higher headquarters.

26. What is the squad leader responsible for?

- a. The squad leader is the senior Infantry Soldier in the squad and is responsible for everything the squad does or fails to do. He is responsible for the care of the squad's Soldiers, weapons, and equipment, and leads the squad through two team leaders.

27. What does the squad leader do during operations?

- a. During operations, the squad leader—
- b. Is the subject matter expert on all battle and individual drills. Is the subject matter expert for the squad's organic weapons employment, and employment of supporting assets. Knows weapon effects, surface danger zones, and risk estimate distances for all munitions. Uses control measures for direct fire, indirect fire, and tactical movement effectively. Controls the movement of the squad and its rate and distribution of fire (including call for and adjusting fire). Fights the close fight by fire and movement with two fire teams and available supporting weapons. Selects the fire team's general location and temporary sector of fires in the defense. Communicates timely and accurate situation reports (SITREPs) and status reports including— Size, activity, location, unit, time, and equipment (SALUTE) spot reports (SPOTREPs). Status to the platoon leader (including squad location and progress, enemy situation, enemy killed in action [KIA], and security posture).
- c. Status of ammunition, casualties, and equipment to the platoon sergeant. Employs digital mission command systems available to the squad and platoon. Operates in all environments to include the urban environment. Conducts troop leading procedures. Assumes duties as the platoon sergeant or platoon leader as required. Understands the mission and commander's intent two levels up (platoon and company).

28. What is the role of the team leader?

- a. The team leader leads his team members by personal example and has authority over his subordinates and overall responsibility for their actions. Centralized authority enables him to maintain troop discipline and unity and to act decisively. Under the fluid conditions of close combat, he accomplishes assigned missions using initiative without needing constant guidance from higher headquarters.

29. What is the team leader responsible for?

- a. The team leader's position on the battlefield requires immediacy and accuracy in all of his actions and is a fighting leader who leads by example. He is responsible for all his team does or fails to do, and is responsible for caring for the team's Soldiers, weapons, and equipment. During operations, the team leader— Is the subject matter expert for all the team's weapons and duty positions and all squad

battle drills. Leads his team in fire and movement. Controls the movement of his team and its rate and distribution of fire. Employs digital mission command systems available to the squad and platoon. Ensures security of the team's area of operations. Assists the squad leader as required. Is prepared to assume the duties of squad leader and platoon sergeant. Enforces field discipline and preventive medicine measures. Determines his team's combat load and manages its available classes of supply as required. Understands the mission two levels up (squad and platoon).

30. What three techniques does the fireteam use to fight?

- a. When maneuvering the team, the team fights using one of three techniques. This includes:
- b. Individual movement techniques. This is the lowest level of movement.
- c. Buddy team fire and movement.
- d. Fire team fire and movement (maneuver).

31. What determines the suitable movement technique in a combat situation?

- a. Determining a suitable technique is based on the effectiveness of the enemy's fire and available cover and concealment. The more effective the enemy's fire, the lower the level of movement. Because the team leader leads his team, he is able to make this assessment firsthand. Other leaders must be sensitive to his decision on movement.

32. What is the role of the grenadier?

- a. The grenadier currently is equipped with an M203/M320 weapon system consisting of an M16-series or M4-series rifle/carbine and an attached 40-mm grenade launcher. He provides the fire team with a high trajectory and an HE capability out to 350 meters. His fire enables the fire team to achieve complementary effects with high trajectory, HE munitions, and flat trajectory ball ammunition from the team's weapons. The grenade launcher allows the grenadier to perform three functions: suppress and destroy enemy Infantry and lightly armored vehicles with HE or high explosive dual purpose (HEDP); provide obscurants to screen and cover his squad's fire and movement; and employ illumination rounds to increase his squad's visibility and mark enemy positions.

33. What are the responsibilities of the grenadier?

- a. The grenadier— Accomplishes all tasks of the rifleman. Engages targets with appropriate types of rounds both day and night. Identifies 40-mm rounds by shape and color. He must know how to employ each type of round and know its minimum safety constraints. Knows the maximum ranges for each type of target of the grenade launcher. Knows the leaf sight increments without seeing the markings. Knows how to make an adjustment from the first round fired so a second-round hit can be attained. Loads the grenade launcher quickly in all firing positions and while running. Is prepared to assume the duties of the automatic rifleman and team leader. Understands the mission two levels up (squad and platoon).

34. What is the role of the automatic rifleman?

- a. The automatic rifleman's primary weapon is currently the 5.56-mm M249 light machine gun. The automatic rifleman provides the unit with a high volume of sustained suppressive direct fires of area targets. The automatic rifleman employs his weapon system to suppress enemy Infantry and bunkers, destroy enemy automatic rifle and AT teams, and enable the movement of other teams and squads.

35. What is the responsibility of the automatic rifleman?

- a. He is normally the senior Soldier of the fire team and must—
- b. Be able to accomplish all tasks of the rifleman and grenadier.
- c. Be prepared to assume the duties of team leader and squad leader. Be able to engage groups of enemy personnel, thin-skinned vehicles, bunker doors or apertures, and suspected enemy locations with automatic fire. Be able to provide suppressive fire on these targets so his teammates can close with and destroy the enemy. Be familiar with field expedient firing aids to enhance the effectiveness of his weapon: an example is aiming stakes. Be able to engage targets from the prone, kneeling, and standing positions with and without night observation devices, and understands the mission two levels up (squad and platoon).

36. What is the role of the rifleman?

- a. The rifleman provides the baseline standard for all Infantry Soldiers and is an integral part of the fire team. The rifleman is an expert in handling and employing the weapon and placing well-aimed fire on the enemy. Additionally, the rifleman must—
- b. Be an expert on his weapon system, his rifle, its optics, and its laser-aiming device, and is effective with this weapon system day or night. Be capable of engaging all targets with well-aimed shots. Employ all weapons of the squad, as well as common munitions. Construct and occupy a hasty firing position and know how to fire from it. He must know how to occupy covered and concealed positions in all environments and what protection they provide from direct fire weapons, and is competent in the performance of these tasks while using night vision devices. Fight as part of his unit, which includes proficiency in his individual tasks and drills. Know the duties of his teammates and is prepared to fill in with their weapons, if needed. Contribute as a member of special teams, including detainee search, aid/litter, demolitions and. wire/mine breach teams. Inform his team leader of everything he hears and sees when in a tactical situation. Perform individual preventive medical measures. Administer buddy aid as required. Manage his food, water, and ammunition during operations. Be prepared to assume the duties of the automatic rifleman and team leader. Understand the mission two levels up (squad and platoon).

37. What is the platoon RTO responsible for?

- a. The platoon radiotelephone operator (RTO) primarily is responsible for communication with its controlling headquarters (usually the company). During operations, the RTO— Has communications at all times. If communication with the platoon's next higher element is lost, the radiotelephone operator immediately

informs the platoon leader or platoon sergeant and reestablishes communication. Conducts radio checks with higher according to unit standard operating procedures when in a static position. If radio contact cannot be made as required, he informs the platoon sergeant or platoon leader. Is an expert in radio procedures and report formats such as close combat attack (see figure 1-5), call for indirect fire (see figure 1-6, page 1-24), or medical evacuation (see table 7-1, page 7-5). Plus is an expert on types of field expedient antennas. Has the frequencies and call signs on his person in a location known to all Soldiers in the platoon.

- b. Assists the platoon leader with information management.
- c. Assists the platoon leader and platoon sergeant employing digital mission command systems with the squads and platoon.
- d. Determines his combat load prior to operations and manages battery utilization during operations.

38. What is the process for a Close Air Support Request?

- a. OBSERVER/ WARNING ORDER
- b.
- c. (AIRCRAFT CALL SIGN), this is (OBSERVER CALL SIGN), Fire Mission, Over
- d.
- e. FRIENDLY LOCATION AND MARKING
- f.
- g. My Position (GRID), marked by (Strobe, Beacon, IR Strobe, etc.)
- h.
- i. TARGET LOCATION
- j.
- k. Target Location (Magnetic bearing and range in meters, Grid, etc.)
- l.
- m. TARGET DESCRIPTION AND MARKING
- n.
- o. (Target Description), marked by (IR Pointer, Tracers, etc.)
- p.
- q. REMARKS
- r. "Over"

39. What is the role of the designated marksman?

- a. The squad-designated marksman employs an optically enhanced general-purpose weapon. He also receives training available within the unit's resources to improve the squad's precision engagement capabilities at short and medium ranges. A rifleman may be assigned as the squad-designated marksman. He is chosen for his demonstrated shooting ability, maturity, reliability, good judgment, and experience. He must be able to execute the entire range of individual and collective rifleman tasks within the squad. The squad designated marksman is not the squad sniper, he is a fully integrated member of the rifle squad and provides an improved capability for the rifle squad. He does not

operate as a semi-autonomous element on the battlefield as a sniper, nor does he routinely engage targets at the extreme ranges common to snipers

40. What is the role of the gunner?

- a. The gunner is normally the senior member of the medium machine gun team. During operations, the gunner— Is responsible for his assistant gunner and all the gun equipment. Is responsible for putting the gun in and out of action. Is the subject matter expert for information contained in FM 3-22.68. When attached to a rifle squad, is the subject matter expert for employment of the medium machine gun, and advises the rifle squad leader of the best way to employ the medium machine gun. Enforces field discipline while the gun team is employed tactically. Knows the ballistic effects of the weapon on all types of targets. Assists the weapons squad leader and is prepared to assume his responsibilities. Understands the mission two levels up (squad and platoon).

41. What is the role of the AG?

- a. The assistant gunner is the second member of the gun team. He is prepared to assume the gunner's role in any situation. During operations, the assistant gunner— Provides a supply of ammunition to the gun when employed. Spots rounds and reports recommended corrections to the gunner. Constantly updates the weapons squad leader on the round count and serviceability of the medium machine gun. Watches for Soldiers to the flanks of the target area or between the gun and target. Obtains ammunition from other Soldiers who are carrying 7.62-mm machine gun ammunition. Immediately assumes the role of gunner if the gunner is unable to continue his duties. Understands the mission two levels up (squad and platoon).

42. What is the role of the CLS?

- a. The combat lifesaver (CLS) is a nonmedical Soldier trained to provide enhanced first aid/lifesaving procedures beyond the level of self-aid or buddy aid. The CLS is not intended to take the place of medical personnel. Using specialized training, the CLS can slow deterioration of a wounded Soldier's condition until treatment by medical personnel is possible. Each certified CLS is issued a CLS aid bag. Whenever possible, the platoon leader ensures each fire team includes at least one CLS.

43. What are the responsibilities of the CLS?

- a. The CLS— Ensures that the squad CLS bags and litters are properly packed and stored. Identifies Class VIII shortages to the platoon medic. + Provides enhanced first aid for injuries and participates in all litter-carry drills. Uses enhanced first-aid skills in the field until casualties can be evacuated. Knows the location of the casualty collection point and the tactical standard operating procedure (TACSOP) for establishing it.

44. What is the role of the forward observer?

- a. The forward observer (FO), along with his RTO, is the platoon subject matter expert on indirect planning and execution. He advises the platoon leadership on the employment and execution for all fire support assets, including company mortars (if assigned), battalion mortars, field artillery, and other allocated fire

support assets. He is responsible for locating targets, and calling and adjusting indirect fires. The fire support team also knows the mission and concept of operation, specifically the platoon's scheme of maneuver and concept of fires, and is the platoon leader's indirect fire expert.

45. What are additional duties of the forward observer?

- a. The forward observer also— Informs the fire support team of the platoon situation, location, and indirect fire support requirements. Prepares and uses maps, overlays, and terrain sketches. Calls for and adjusts indirect fires. (See figure 1-6, page 1-24.) Operates as a team with the fire support radiotelephone operator. Selects targets to support the platoon's mission. Selects observation posts and movement routes to and from selected targets. Operates digital message devices and maintains communication with the company and battalion fire support officer (FSO). Maintains grid coordinates of his location. Prepares to employ close air support (CAS) assets. (See figure 1-7, page 1-25.)

46. What are the components of a call for fire request?

- a. 1 Observer identification-callsigns
- b.
- c. 2 Warning order-Adjust fire, Fire for effect, Suppress, Immediate Suppression/Smoke
- d.
- e. 3 Location of Target-Grid coordinate, shift from known point, polar plot, etc.
- f.
- g. 4 Description of Target-Type, Activity, Number, Protection, Size and Shape
- h.
- i. 5 Engagement Method-Adjustment type, Danger Close, Mark, Ammunition, Dispersion
- j.
- k. 6 Method of fire/Method of control

47. What is the role of the AT specialist?

- a. The designated anti armor specialist has a Javelin AT missile system. This weapon system gives the squad, platoon, and company a lethal fire-and-forget, man-portable, top attack anti armor capability. With it, they can defeat enemy main battle tanks up to 2000 meters during day, night, and in adverse weather conditions. If required, the squad anti armor specialist destroys enemy armor threats that might impede the squad or platoon's progress.

48. How does the designated marksman operate within the squad?

- a. The designated marksman acts as a member of the squad under the direction of the squad leader or as designated by the platoon leader. Although normally functioning as a rifleman within one of the fire teams in a rifle squad, the designated marksman is armed with a modified rifle. He is employed at the direction of the fire team leader or squad leader. He is trained to eliminate high-payoff enemy personnel targets (such as enemy automatic rifle teams, AT teams, and snipers) with precision fires.

49. What is the structure of the grenadiers within the squad?

- a. Each squad has two grenadiers with an M320/203 weapon system, which comprises a carbine with an attached 40-mm grenade launcher. The M320/203 can be used in two ways. It can be attached to the M16 assault rifle and the M4 carbine, attaching under the barrel forward of the magazine, or it can be dismounted with a stock attached as a standalone model.
50. What is the CLS? What is the purpose of the CLS?
- a. The CLS is a nonmedical Soldier trained to provide enhanced first aid/lifesaving procedures beyond the level of self-aid or buddy aid. The CLS is not intended to take the place of medical personnel. Using specialized training, the CLS can slow deterioration of a wounded Soldier's condition until treatment by medical personnel is possible. Each certified CLS is issued a CLS aid bag. Whenever possible, the platoon leader ensures each fire team includes at least one CLS.
51. How does the BFV enhance the capabilities of the platoon?
- a. The BFV enhances the platoon's capabilities to conduct operations with greater lethality, survivability, sustainability, and mobility. The information systems enhance the crew's communication during operations. Because the BFV platoon can transfer more information at every level, leaders and Soldiers must work together to manage the information.
52. What armaments are on the BFV?
- a. The BFV's four weapon systems include the 25-mm automatic gun, the 7.62-mm coaxial machine gun, the tube-launched, optically tracked, wire-guided (TOW) missile launcher system, and two smoke-grenade launchers.
53. What are the features of the BFV?
- a. The BFV features an improved Bradley acquisition system, which adds an improved target acquisition subsystem and missile control subsystem. The improvements include a second-generation, forward-looking infrared thermal sight; a target-designation function; dual-target tracking; an eye-safe laser range finder; an automatic gun-target adjustment; automatic optical alignment; and "hunter-killer" capability. Second generation forward-looking infrared thermal sight allows the Bradley commander or gunner to identify and acquire targets beyond the range of the vehicle's weapon systems. The improved Bradley acquisition system enables the user to acquire, recognize, identify, and automatically track two targets within the same field of view and selected magnification, day or night. The M2A3 BFV can use the 25-mm cannon or 7.62-mm machine gun to engage either of two targets appearing in the same field of view and any aspect, and the TOW while stationary.
54. What equipment on the BFV helps ensure survivability?
- a. Equipment on the BFV that helps ensure survivability includes— Roof fragmentation protection. Mounting capability for reactive armor tiles. Aluminum structure with steel appliqué spaced laminate, steel armor, or both. Titanium roof armor. 10-Soldier gas particulate filter unit. Halon fixed fire suppression systems in engine and personnel compartments. Portable carbon dioxide fire extinguishers. Bradley urban survivability kits.
55. What are the tactical capabilities of the BFV equipped infantry platoon?

- a. The BFV-equipped mechanized Infantry platoon can—
  - b. Assault enemy positions. Assault with small arms and indirect fires to deliver rifle squads to tactical positions of advantage. Use 25-mm cannon and 7.62-mm machine gun fire to effectively suppress or destroy the enemy's Infantry. Block dismounted avenues of approach. Seize and retain key and decisive terrain.
  - c. Clear danger areas and prepare positions for mounted elements.
  - d. Conduct mounted or dismounted patrols and operations in support of security operations.
  - e. Develop the situation through reconnaissance and close combat.
  - f. Establish strong points to deny the enemy important terrain or flank positions. Infiltrate enemy positions.
  - g. Overwatch and secure tactical obstacles.
  - h. Repel enemy attacks through close combat.
  - i. Participate in air assault operations.
  - j. Destroy light armor vehicles using direct fire from the BFV. Employ 25-mm cannon fire to fix, suppress, or disrupt the movement of fighting vehicles and anti armor systems up to 2500 meters.
  - k. Use TOW fires to destroy tanks and fighting vehicles out to 3750 meters.
  - l. Use Javelin fires to destroy tanks and fighting vehicles out to 2000 meters. Operates in a CBRN environment.
  - m. Conduct stability tasks.
  - n. Participate in Defense Support of Civil Authorities operations.
56. What are some of the limitations of the BFV equipped infantry platoon?
- a. The platoon leader must understand the limitations of the BFV-equipped mechanized Infantry platoon to effectively employ the platoon. These limitations include the following: BFVs are vulnerable to enemy antiarmor fires, attack helicopters, mines, AT guided missiles, and close attack aircraft. Rifle squads are vulnerable to small arms, improvised explosive devices (IED), and indirect fires when not mounted.
  - b. The foot speed of the dismounted Soldiers may establish the pace of operations.
  - c. The BFV poses a variety of challenges in water-crossing operations.
  - d. Between other things, the platoon could have difficulty finding adequate fording sites or a bridge with a sufficient weight classification.
  - e. Radio communications may be significantly degraded in built-up areas and other restricted terrain.
  - f. Noise generated by BFVs may prevent them from arriving in an area undetected.
57. How do BFV equipped infantry platoons operate?
- a. BFV-equipped Infantry platoons and rifle squads normally operate as part of a larger force. They benefit from the support of armor, artillery, mortars, close air support, close combat attack, air defense, and engineers. They provide their own suppressive fires either to repel enemy assaults or to support their own maneuver. During close combat, platoon leaders determine how to employ the BFVs by considering the following objectives: Support the rifle squads with direct fires. Provide mobile protection to transport rifle squads to the critical point on the

battlefield. Suppress or destroy enemy vehicles and other lightly armored vehicles. Destroy enemy armor with TOW fires.

58. What does operational success depend on for a BFV platoon?

- a. Success in operations hinges on the actions of platoons, sections, and rifle squads in close combat. It depends on their ability to react to contact; employ suppressive fires; maneuver to an enemy's vulnerable flank; and fight through to defeat, destroy, or capture an enemy. For success, the BFV-equipped Infantry platoon relies on the ability of leaders and Soldiers to
- b. Use the potential of both the rifle squads and the BFV.
- c. Operate their weapons with accuracy and deadly effect.
- d. Outthink, outmaneuver, and outfight the enemy.
- e. Use terrain to their advantage.

59. What guidelines must be followed when employing mechanized infantry during decisive operations?

- a. Leaders must consider the following guidelines when employing mechanized Infantry during decisive operations:
- b. Squads and platoons fight through enemy contact at the lowest possible level. Upon enemy contact, all Soldiers and leaders must act at once and follow up. Battle drills are standard procedures that help the platoon take immediate action. Before they can maneuver, squads or platoons in contact must establish effective suppressive fires and gain fire superiority. If the platoon or squad cannot move under its own fires, the leader must request support from the commander. Once they gain fire superiority, they maneuver against an enemy position. The BFVs suppress the enemy, move to a dismount location (if caught in the open), and dismount the
- c. rifle squads. The BFVs quickly build a base of fire for the rifle squads to maneuver.

60. What are the characteristics of the Stryker fighting vehicle?

- a. Stryker Infantry platoon and squads are a versatile force that can fight mounted, dismounted while being supported by the Stryker vehicle, or dismounted and independent of the vehicles. The Stryker is a highly mobile vehicle that enables the Stryker Infantry to close with and destroy a lightly armored enemy with the Remote Weapon Station (RWS) weapon system while the dismounted Infantrymen, supported by the Stryker, can destroy the enemy in close combat.

61. How can Stryker elements operate effectively with dismounted elements?

- a. The platoon must prepare to fight in a variety of operational environments. Once the rifle squads have dismounted, the mounted element can provide a base of fire for the rifle squads as they close with and destroy the enemy. Figure 1-10 (page 1-42) depicts the platoon headquarters, the mounted elements, and the Infantry squads. The platoon can fight as in multiple mutually supporting maneuver elements to include—
- b. Squad leader controls two dismounted teams and mounted Stryker vehicle. The squads fight dismounted while the Stryker vehicles move in vehicle sections.

- c. The platoon fights in sections with mounted and dismounted elements supporting one another. The platoon fights with dismounted squads and Stryker vehicles or as two distinct maneuver elements, one mounted and one dismounted.
62. What elements are in the platoon headquarters?
- a. The platoon headquarters consists of the platoon leader, platoon sergeant, RTO, and attached fire support team and platoon combat medic. The platoon leader responsibilities include the employment of the platoon and all the platoon's systems. The platoon sergeant is the senior NCO in the platoon. He is second in succession of command and leads the platoon's mounted element when the platoon leader dismounts with the Infantry squads. He assists and advises the platoon leader and leads the platoon in the platoon leader's absence.
63. What is the role of the rifle squad leader?
- a. Each of the three rifle squads consists of a rifle squad leader and ten Soldiers. The rifle squad leader is the senior tactical leader of the squad and controls the squad's movement and fires. He conducts squad training and maintains the squad's ability to conduct successful tactical missions.
64. How is each infantry squad organized?
- a. Each Infantry squad is further organized into three teams, two four-man teams consisting of a team leader, a grenadier, and an automatic rifleman. The fourth member within each fire team is a rifleman with the added duties of being either the squad's anti tank specialist or the squad's designated marksman. The third team consists of the vehicle commander and the vehicle driver.
65. What are the characteristics of the ICV?
- a. The ICV is an eight-wheeled armored vehicle. It is a four-wheeled drive vehicle with selectable eight-wheeled drive and has—
  - b. A sprint capability of 50 meters in 9 seconds.
  - c. A sustained maximum speed of greater than 60 miles per hour (mph).
  - d. A cruising range, at 40 mph, for 330 or more miles. Central Tire Inflation System. Run-flat tires.
66. What are considerations for the employment of Stryker infantry elements?
- a. Leaders must consider the following guidelines when employing Stryker Infantry during decisive operations:
  - b. Squads and platoons fight through enemy contact at the lowest possible level. Upon enemy contact, all Soldiers and leaders must act at once and follow up.
  - c. Battle drills are standard procedures that help the platoon take immediate action. Before they can maneuver, squads or platoons in contact must establish effective suppressive fires and gain fire superiority. If the platoon or squad cannot move under its own fires, the leader must request support from the commander.
  - d. Once they gain fire superiority, they maneuver against an enemy position. The Stryker ICV can suppress the enemy, move to a dismount location (if caught in the open), and dismount the rifle squads. The ICVs quickly build a base of fire for the rifle squads to maneuver.
67. In what elements do ICV infantry platoons and rifle squads operate?

- a. ICV-equipped Infantry platoons and rifle squads normally operate as part of a larger force. They benefit from the support of armor, artillery, mortars, close air support, close combat attack, air defense, and engineers. They provide their own suppressive fires either to repel enemy assaults or to support their own maneuver. During close combat, platoon leaders determine how to employ the ICVs by considering the following objective: Support the rifle squads with direct fires. Provide mobile protection to transport rifle squads to the critical point on the battlefield. Suppress or destroy enemy personnel and other soft targets with a .50-cal machine gun or an MK19.
68. What does success of operations depend on?
- a. Success in operations hinges on the actions of platoons, sections, and rifle squads in close combat. It depends on their ability to react to contact; employ suppressive fires; maneuver to an enemy's vulnerable flank; and fight through to defeat, destroy, or capture an enemy. For success, the ICV-equipped Infantry platoon relies on the ability of leaders and Soldiers to— Use the potential of both the rifle squads and the ICV. Operate their weapons with accuracy and deadly effect. Outthink, outmaneuver, and outfight the enemy. Use terrain to their advantage.
69. What characteristics does the Infantry rifle company have?
- a. The Infantry rifle company can deploy rapidly and be sustained by a support structure. (See figure 1-12, page 1-54.) The platoon's composition and training uniquely equip it to conduct missions against conventional and hybrid threats in all types of terrain and climate conditions. In addition to the Infantry rifle platoon's primary warfighting mission, it performs platoon level tasks in support of stability and defense support of civil authorities' tasks, semi-independently or as an integral part of a larger force.
70. What is the structure of the combined arms battalion?
- a. The combined arms battalion has two mechanized Infantry companies and two Armor companies. Application of Armor and mechanized Infantry companies as a combined arms team can capitalize on the strengths of the company elements while minimizing their limitations.
71. What are the characteristics of the mechanized infantry company?
- a. The mechanized Infantry company is organized, equipped, and trained to fight with organic assets or as a task-organized company team. The mechanized Infantry company consists of a headquarters and three BFV platoons. Figure 1-13 illustrates the organization of a mechanized Infantry company.
72. How does the Infantry company maneuver?
- a. The company maneuvers in various types of terrain, climate, and visibility conditions. It capitalizes on all forms of mobility, to include helicopters and tactical airlift. The inherent versatility of Infantry makes it well suited for employment against asymmetric threats. Unlike the Infantry and Stryker rifle companies, it has no organic mortars.
73. What must platoon leaders understand about the offense?

- a. Platoon leaders and squad leaders must understand the principles and TTP associated with the offense. They must comprehend their role when operating within a larger organization's operations, and when operating independently. Leaders must recognize the complementary and reinforcing effects of other maneuver elements and supporting elements with their own capabilities, and understand the impact of open or restrictive terrain on their operations. The platoon conducts the offense to deprive the enemy of resources, seize decisive terrain, deceive or divert the enemy, develop intelligence, or hold an enemy in position. This chapter covers the basic principles of the offense, common offensive planning considerations, actions on contact, movement to contact attack, and transitions.

74. What is audacity?

- a. Audacity is a simple plan of action, boldly executed. Audacity inspires Soldiers to overcome adversity and danger. It is a key component of all offensive actions, increasing the chance for surprise. Audacity depends upon the leader's ability to see opportunities for action, decide in enough time to seize opportunities, and accept prudent risks. Leaders understand when and where to take risks, plan, and execute boldly.

75. What is concentration?

- a. Concentration is the massing of overwhelming effects of combat power to achieve a single purpose. Leaders balance the necessity for concentrating forces to mass effects against the need to disperse forces in order to avoid creating lucrative targets. Advances in ground, air mobility, target acquisition, and long-range precision fires enable attackers to concentrate effects. Mission command systems provide reliable, relevant information that assist commanders in determining when to concentrate forces to mass effects.

76. How does the infantry squad achieve concentration?

- a. The Infantry platoon and squad achieves concentration through—
- b. Careful planning and coordination based on a thorough terrain and enemy analysis, plus accurate reconnaissance.
- c. Designation of a main effort and allocation of resources to support it. Continuous information flow. Massing firepower using long-range precision fires and maneuver.

77. How is surprise achieved?

- a. In the offense, surprise is achieved by attacking the enemy at a time or place they do not expect or in a manner for which they are unprepared. Estimating the enemy commander's intent and denying the ability to gain thorough and timely situational understanding are necessary to achieve surprise. Unpredictability and boldness help gain surprise. The direction, timing, and force of attack also help achieve surprise. Surprise delays enemy reactions, overloads and confuses his command and control systems, induces psychological shock in enemy soldiers and leaders, and reduces the coherence of defensive missions. By diminishing enemy combat power, surprise enables the attackers to exploit enemy paralysis and hesitancy. The Infantry platoon and squad achieve surprise by—

- b. Gaining and maintaining information dominance by conducting thorough information collection and counter reconnaissance efforts.
- c. Striking the enemy from an unexpected direction, at an unexpected time, and by unique combinations of movement with units that cross all types of terrain. Quickly changing the tempo of operations.
- d. Being unpredictable.

78. What is tempo?

- a. Tempo is the relative speed and rhythm of military operations over time with respect to the enemy. Controlling or altering tempo is necessary to retain the initiative. A faster tempo allows attackers to quickly penetrate barriers and defenses, and destroy enemy forces in-depth before they can react. Leaders adjust tempo as tactical situations, sustainment necessity, or operational opportunities allow. This ensures synchronization and proper coordination, but not at the expense of losing opportunities, that defeats the enemy. Rapid tempo demands quick decisions. It denies the enemy the chance to rest while continually creating offensive opportunities.

79. What is movement to contact?

- a. Movement to contact is an offensive task designed to develop the situation and establish or regain contact. (Refer to FM 3-90-1 for more information.) It creates favorable conditions for subsequent tactical actions. The leader conducts a movement to contact when the enemy situation is vague or not specific enough to conduct an attack. Forces executing this task seek to make contact with the smallest friendly force possible. A movement to contact may result in a meeting engagement, which is a combat action occurring when a moving force engages an enemy at an unexpected time and place. Once making contact with an enemy force, the leader has five options: attack, defend, bypass, delay, or withdraw. Two movement to contact techniques are search and attack, and cordon and search.

80. What is the purpose of an attack?

- a. An attack destroys or defeats enemy forces, seizes and secures terrain, or both. (Refer to FM 3-90-1 for more information.) Attacks incorporate coordinated movement supported by direct and indirect fires. They may be decisive or shaping operations and hasty or deliberate, depending upon the time available for assessing the situation, planning, and preparing. However, based on METT-TC, the leader may decide to conduct an attack using only fires. An attack differs from a movement to contact because enemy main body dispositions are at least partially known, allowing the leader to achieve greater synchronization. This enables the massing effects of attacking forces combat power more effectively in an attack than in a movement to contact.

81. What is exploitation?

- a. Exploitation follows an attack and disorganizes the enemy in-depth (Refer to FM 3-90-1 for more information.) Exploitations seek to disintegrate enemy forces to the point where they have no alternative but surrender or retreat. Exploitation takes advantage of tactical opportunities, foreseen or unforeseen. Division and higher headquarters normally plan site exploitations as branches or sequels

plans. However, the Infantry platoon and squad may participate as part of the fixing force or striking force.

82. What is pursuit?

- a. A pursuit is an offensive task designed to catch or cut off a hostile force attempting to escape, with the aim of destroying them. (Refer to FM 3-90-1 for more information.) A pursuit normally follows exploitation. Transition into a pursuit can occur if it is apparent enemy resistance has broken down entirely and the enemy is fleeing the area of operation. Pursuits entail rapid movement, decentralized control and clear commanders' intent to facilitate control.

83. How do leaders select the method of maneuver?

- a. Leaders select the form of maneuver based on METT-TC. The leader then synchronizes the contributions of all warfighting functions to the selected form of maneuver. An operation may contain several forms of offensive maneuver, such as frontal attack to clear enemy security forces, followed by a penetration to create a gap in enemy defenses, which in turn is followed by an envelopment to destroy a counter attacking force. While Infantry platoons and squads do not have the combat power to conduct all forms of maneuver on its own, they will participate as part of a larger organization.

84. What are the six methods of maneuver?

- a. Envelopment.
- b. Turning movement.
- c. Frontal attack.
- d. Penetration.
- e. Infiltration.
- f. Flank attack.

85. What is envelopment?

- a. Envelopment is a form of maneuver in which an attacking force seeks to avoid the principal enemy defenses by seizing objectives behind those defenses allowing the targeted enemy force to be destroyed in their current positions. BCTs and above normally plan and conduct envelopments. At the tactical level, envelopments focus on seizing terrain, destroying specific enemy forces, and interdicting enemy withdrawal routes. The leader's decisive operation focuses on attacking an assailable flank. It avoids the enemy's strength at the front where the effects of fires and obstacles are greatest. Generally, the leader prefers to conduct envelopment instead of a penetration or frontal attack because the attacking force tends to suffer fewer casualties while having the most opportunities to destroy the enemy. Envelopment also produces great psychological shock on the enemy. If no assailable flank is available, the attacking force creates one. The four varieties of envelopment are single envelopment, double envelopment, encirclement, and vertical envelopment.

86. What is a turning movement?

- a. A turning movement is a form of maneuver in which the attacking force seeks to avoid the enemy's principle defensive positions by seizing objectives behind the enemy's current position. This causes the enemy forces to move out of their

current positions or divert major forces to meet the threat. The leader uses this form of offensive maneuver to seize vital areas in the enemy's support area before the main enemy force can withdraw or receive reinforcements. This form of offensive maneuver transitions from an attack into a site exploitation or pursuit. A turning movement seeks to make the enemy force displace from their current locations, whereas an enveloping force seeks to engage the enemy in their current locations from an unexpected direction. Divisions normally execute turning movements.

87. What is a frontal attack?

- a. A frontal attack is a form of maneuver where an attacking force seeks to destroy a weaker enemy force, or fix a larger enemy in place over a broad front. An attacking force can use a frontal attack to overrun a weak enemy force. The leader commonly uses a frontal attack as a shaping operation in conjunction with other forms of maneuver.

88. What is a penetration?

- a. A penetration is a form of maneuver where an attacking force seeks to rupture enemy defenses in a narrow front to disrupt the defensive system. Destroying the continuity of defense allows the enemy's subsequent isolation and defeat in detail by exploiting friendly forces. The penetration extends from the enemy's security area through main defensive positions into the enemy support area. The leader employs a penetration when there is no assailable flank, enemy defenses are overextended and weak spots are detected in the enemy's positions, or time pressures do not permit envelopment.

89. What is an infiltration?

- a. An infiltration is a form of maneuver where an attacking force conducts undetected movement through or into an area controlled by enemy forces. The goal is to occupy a position of advantage behind enemy positions while exposing only small friendly elements to their defensive fires. Infiltration occurs by land, water, air, or a combination of means. Moving and assembling forces covertly through enemy positions takes a considerable amount of time. To infiltrate, the force avoids detection and engagement. Since this requirement limits the size and strength of the infiltrating force, and infiltrated forces alone rarely can defeat an enemy, infiltration normally is used in conjunction with and in support for other forms of maneuver.

90. What is a flanking attack?

- a. A flanking attack is a form of offensive maneuver directed at the flank of an enemy force as illustrated in figure 2-6, page 2-10. A flank is the right or left side of a military formation and is not oriented toward the enemy. It is usually not as strong in terms of forces or fires as is the front of a military formation. A flank may be created by the attacker with fires or by a successful penetration. A flanking attack is similar to envelopment but generally conducted on a shallower axis. It is designed to defeat the enemy force while minimizing the effect of the enemy's frontally-oriented combat power. Flanking attacks normally are conducted with the main effort directed at the flank of the enemy. Usually, a supporting effort

engages the enemy's front by fire and maneuver while the main effort maneuvers to attack the enemy's flank. This supporting effort diverts the enemy's attention from the threatened flank. Corps and divisions are the most likely echelons to conduct turning movements. It often is used for a hasty operation or meeting engagement where speed and simplicity are paramount to maintaining battle tempo and, ultimately, the initiative.

91. What are common control measures of the offense?

- a. The higher commander defines the commander's intent and establishes control measures allowing for decentralized execution and platoon leader initiative to the greatest extent.
- b. Common control measures for the offense are the—
- c. Assault position.
- d. Assault time.
- e. Attack by fire position.
- f. Attack position.
- g. Axis of advance.
- h. Battle handover line.
- i. Direction of attack.
- j. Final coordination line.
- k. Limit of advance.
- l. Line of departure.
- m. Objective.
- n. Point of departure.
- o. Probable line of deployment.
- p. Rally point.
- q. Support of fire position.
- r. Time of attack.

92. What is an area of operation?

- a. An area of operation defines the location where the subordinate units conduct their offensive. One technique breaks the battalion and company area of operation into many named smaller area of operation. Units remain in designated area of operation as they conduct their missions. Battalion and higher reconnaissance assets might be used to observe area of operation with no platoons in them, while platoons or companies provide their own reconnaissance in the area of operation.

93. What is the purpose of a target reference point?

- a. A TRP facilitates the responsiveness of fixing and finishing elements once the reconnaissance element detects the enemy. Objectives and checkpoints guide the movement of subordinates and help leaders control their organizations. Contact points help coordination among the units operating in adjacent areas.

94. What are three factors for selecting terrain features to use as control measures?

- a. When looking for terrain features to use as control measures, leaders consider three types: contiguous; point; and area. Contiguous features follow major natural and manmade features such as ridgelines, valleys, trails, streams, power

lines, and streets. Point features can be identified by a specific feature or a grid coordinate including, hilltops and prominent buildings. Area features are significantly larger than point features and require a combination of grid coordinates and terrain orientation.

95. How are offensive tasks executed?

- a. Offensive tasks are typically executed in a five-step sequence. This sequence is for discussion purposes only and is not the only way of conducting offensive tasks. These sequences overlap during the conduct of the offense. Normally the first three steps are shaping operations, while the maneuver step is the decisive operation. Follow through is usually a sequel or branch to the plan based upon the situation.

96. What is the five-step sequence of the offense during execution?

- a. Gain and maintain enemy contact.
- b. Disrupt the enemy.
- c. Fix the enemy.
- d. Maneuver.
- e. Follow through.

97. What is the importance of warfighting functions?

- a. The warfighting functions are critical activities leaders use to plan, to prepare, and to execute. Synchronization and coordination among the warfighting functions is critical for success. This section discusses warfighting functions and other planning considerations.

98. What is the central figure for mission command in the infantry platoon?

- a. In the Infantry platoon, the platoon leader is the central figure in mission command and is essential to integrating the capabilities of the warfighting functions. Mission command invokes the greatest possible freedom of action to his subordinates, facilitating their abilities to develop the situation, adapt, and act decisively through disciplined initiative within the platoon leader's intent. It focuses on empowering subordinate leaders and sharing information to facilitate decentralized execution.

99. What does mission command convey?

- a. Mission command conveys the leader's intent, and an appreciation of METT-TC, with special emphasis on—
- b. Enemy positions, strengths, and capabilities.
- c. Missions and objectives, including task and purpose, for each subordinate element.
- d. Commander's intent.
- e. Areas of operations for use of each subordinate element with associated control graphics.
- f. Time the operation is to begin.
- g. Scheme of maneuver.
- h. Special tasks required to accomplish the mission.
- i. Risk.
- j. Options for accomplishing the mission.

100. What five tasks reside within the mission command warfighting function?
  - a. In addition to mission command warfighting function tasks, five additional tasks reside within the mission command warfighting function. These tasks are:
  - b. Conduct military deception.
  - c. Conduct civil affairs operations.
  - d. Install, operate, and maintain the network.
  - e. Conduct airspace control.
  - f. Conduct information protection.
101. What must mechanized platoons consider during planning and coordination for offensive tasks?
  - a. The planning and coordination requirements and procedures for offensive tasks are the same for both mechanized and Stryker Infantry units. The mechanized and Stryker platoon leader, however, must consider the following: The speed of the BFV versus speed of the dismounted Infantryman. The increased firepower of the BFV and Stryker and supporting weapons. The ability to rapidly bring combat power to bear at the decisive point with enhanced communication and coordination capabilities.
102. What do tactical mission tasks describe?
  - a. Tactical mission tasks describe the results or effects the commander wants to achieve—the what and why of a mission statement. The "what" is an effect that is normally measurable. The "why" of a mission statement provides the mission's purpose.
103. What is a breach?
  - a. A platoon may conduct a breach during an attack to break through or secure a passage through an enemy defense, obstacle, minefield, or fortification. A platoon can participate in a hasty breach or participate as part of a larger unit during the conduct of a deliberate breach. A deliberate breach requires a synchronized combined arms operation.
104. When does a platoon defeat an enemy force?
  - a. A platoon defeats an enemy force when the enemy force has temporarily or permanently lost the physical means or the will to fight. During a defeat, the defeated force's leader is unwilling or unable to pursue his adopted course of action, thereby yielding to the friendly commander's will. Also, he can no longer interfere with the actions of friendly forces to a significant degree.
105. When does a platoon destroy an enemy force?
  - a. A platoon destroys an enemy force when it physically renders an enemy force combat-ineffective until it is reconstituted. A platoon can destroy an enemy force by— Executing an ambush where the entire enemy element is in the kill zone. Using surprise direct and indirect fire into an engagement area. Coordinating direct and indirect fires onto an objective. Massing indirect fires onto an unprepared enemy.
106. When has a platoon seized an objective?
  - a. A platoon has seized an objective when it physically occupies it and the enemy can no longer place direct fire on it. A platoon may seize during either offensive

or defensive tasks. Examples include: A platoon seizes the far side of an obstacle as part of a company team breach. A platoon seizes a portion of an enemy defense as part of a company team deliberate attack. A platoon seizes key terrain to prevent its use by the enemy.

107. When has a platoon or squad suppressed an enemy?
  - a. A platoon or squad has suppressed an enemy when the enemy cannot prevent our forces from accomplishing their mission. It is a temporary measure. The platoon can use direct fire or call in indirect and obscuring fires. Units in support and attack by fire positions often use suppressive fires to accomplish their mission. It is often used by the platoon during an attack to—
  - b. Allow further movement of friendly forces. Isolate an objective by suppressing enemy units in mutually supporting positions. Cover the dismounted assault element from the line of departure (LD) to the objective.
108. How does the platoon leader use maneuver to achieve surprise?
  - a. The platoon leader conducts maneuver to avoid enemy strengths and create opportunities that increase the effects of combat power. Surprise is achieved by making unexpected maneuvers, rapidly changing the tempo of ongoing operations, avoiding observation, and using deceptive techniques and procedures. The platoon leader seeks to overwhelm the enemy with one or more unexpected actions before it has time to react in an organized fashion. This occurs when the attacking force is able to engage the defending enemy force from positions of advantage with respect to the enemy, such as engaging from a flanking position.
109. How does the PL maneuver the platoon to close with and destroy the enemy?
  - a. The platoon leader maneuvers the platoon to close with and destroy the enemy by close combat and shock effect. Close combat is direct-fire and movement warfare carried out on land and supported by direct-, indirect-, and air-delivered fires. (Refer to ADRP 3-0 for more information.) Close combat defeats or destroys enemy forces, or seizes and retains ground.
110. What tasks are within the movement and maneuver warfighting function?
  - a. The movement and maneuver warfighting function includes the following tasks:
  - b. Deploy.
  - c. Move.
  - d. Maneuver.
  - e. Employ direct fires.
  - f. Occupy an area.
  - g. Conduct mobility and countermobility operations. Conduct reconnaissance and surveillance. Employ battlefield obscuration.
111. What do leaders use to develop their COA during combat operations?
  - a. Leaders use threat event templates, the situation template, the likely threat COA, the most dangerous threat COA, civil consideration products, terrain products, and other intelligence products. The platoon leader may need to request information through the company intelligence support team (CoIST) company

intelligence analyst from the battalion staff to answer platoon information requirements.

112. What does the leader determine by studying terrain?
  - a. By studying the terrain, the leader tries to determine the principal enemy heavy and light avenues of approach to the objective. Leaders also try to determine the most advantageous area the enemy's main defense might occupy, routes the enemy may use to conduct counterattacks, and other factors such as OAKOC. The attacking unit continuously conducts information collection during the battle because it is unlikely the leader has complete knowledge of the enemy's intentions and actual actions.
113. What plan must the PL have while planning the movement route?
  - a. The platoon leader must have a good, indirect fire plan for his route to cover anticipated places of contact. These targets are a product of the platoon leader's analysis of the factors of METT-TC and must be incorporated into the company's indirect fire plan.
114. How do leaders plan FIRES?
  - a. Leaders conduct fires planning concurrently with maneuver planning at all levels. BCTs and battalions typically use top-down fire support planning, with bottom-up refinement of plans. As part of the top-down fire planning system, the company commander refines the fire plan from higher headquarters to meet mission requirements, ensuring these refinements are incorporated into the higher headquarters plan.
115. Why is a clearly defined CONOP important?
  - a. A clearly defined concept of the operation enables the platoon leader and FO to articulate precisely how they want indirect fires to affect the enemy during the different phases of the operation. In turn, this allows the company FSO to facilitate the development of fires supporting accomplishment of the company's mission down to the squad level.
116. What is the objective of sustainment?
  - a. The objective of sustainment in the offense is to assist the platoon in maintaining the momentum. The platoon leader wants to take advantage of windows of opportunity and launch offensive tasks with minimum advance warning time. Platoon sergeant and squad leaders must anticipate these events and maintain flexibility to support the offensive plan accordingly.
117. What is key to an effective offense in terms of sustainment?
  - a. A key to an offense is the ability to anticipate the requirement to push support forward, specifically in regard to ammunition, fuel, and water. This anticipation helps maintain the momentum of attack by delivering supplies as far forward as possible. Leaders use throughput distribution, and preplanned, preconfigured packages of essential items to help maintain offensive momentum and tempo.
118. What challenges does tempo bring to asset protection?
  - a. The rapid tempo and changing nature of the offense presents challenges to the protection of friendly assets. The forward movement of subordinate units is critical if the leader is to maintain the initiative necessary for offensive tasks.

Denying the enemy a chance to plan, prepare, and execute a response to the friendly offense by maintaining a high operational tempo is a vital means the leader employs to ensure the survivability of his force. Using multiple routes, dispersion, highly mobile forces, piecemeal destruction of isolated enemy forces, scheduled rotation and relief of forces before they culminate, and wise use of terrain are techniques for maintaining a high tempo of offense. The exact techniques employed in a specific situation reflect METT-TC.

119. Why does the leader protect subordinate forces?
  - a. The leader protects subordinate forces to deny the enemy the capability to interfere with their ongoing operations. Protection also meets the leader's legal and moral obligations to the organization's Soldiers. Some protection assets may need to be requested from higher. (Refer to ADRP 3-37 for more information.) To help preserve the force, the leader constantly assesses and ensures the following doctrinal protection tasks are addressed during the platoon's planning, preparation, and execution:
  - b. Conduct operational area security.
  - c. Employ safety techniques (including fratricide avoidance).
  - d. Implement operation security.
  - e. Provide intelligence support to protection.
  - f. Implement physical security procedures.
  - g. Apply antitank measures.
  - h. Conduct survivability operations.
  - i. Conduct CBRN operations.
  - j. Provide support for EOD.
  - k. Coordinate air and missile defense.
120. What are air assaults?
  - a. Air assaults are high-risk, high-payoff missions. When properly planned and vigorously executed, these missions allow leaders to generate combat power and apply warfighting functions. An air assault can provide leadership the means to control the tempo of operations, enabling rapid execution of operations to retain or exploit the initiative.
121. Where is an air assault task force effective?
  - a. An air assault task force is most effective in environments where limited lines of communications are available to the enemy, who also lacks air superiority and effective air defense systems. It should not be employed in roles requiring deliberate operations over an extended period, and is best employed in situations providing a calculated advantage due to surprise, terrain, threat, or mobility. In particular, an air assault task force is employed in missions requiring: Massing or shifting combat power quickly. Using surprise. Using flexibility, mobility, and speed. Gaining and maintaining the initiative.
122. What are basic considerations for planning and executing air assaults?
  - a. FM 3-99 addresses the following basic considerations for planning and execution of air assaults: Air assault operations are best conducted at night or during weather conditions allowing aircraft operations that obscure enemy observation.

This facilitates deception and surprise. Indirect fire support planning provides suppressive fires along air routes and in the vicinity of landing zones. Priority for fires should be to the suppression of enemy air defense systems. Infantry unit operations are not changed fundamentally by integrating with aviation units. However, tempo and distance are changed dramatically. Ground and aerial reconnaissance units should be employed as early as possible to conduct reconnaissance and surveillance activities to shape the operational area for execution.

123. What is the purpose of offensive tasks in urban terrain?
  - a. Offensive tasks in urban terrain are designed to impose the leader's will on the enemy. Offensive missions in an urban environment aim to destroy, defeat, or neutralize an enemy force. However, the purpose may be to achieve some effect relating to the population or infrastructure of the urban area. Leaders should use a combined arms approach for offensive urban operations.
124. What are offensive missions in urban areas based on?
  - a. Offensive missions in urban areas are based on offensive doctrine applied to urban terrain. Urban terrain imposes a number of demands different from ordinary field conditions, such as problems with troop requirements, maneuver, and use of equipment. As with all offensive missions, the leader must retain his ability to maneuver against enemy positions.
125. Why is subterranean terrain important in urban areas?
  - a. In cities, subterranean features include underground garages, passages, subway lines, utility tunnels, sewers, and storm drains. Most allow troop movement. In smaller towns, sewers and storm drains may permit Soldiers to move beneath the fighting to surface behind the enemy. Knowledge of nature and location of underground facilities is of great value to both the urban attacker and defender. Subterranean routes can grant attackers use of both surface and subterranean avenues of approach, enabling them to place a smaller force behind enemy defenses. Depending upon strength and depth of the aboveground defense, attackers along the subterranean avenue of approach can become the main attack. If subterranean efforts are not immediately successful, it forces defenders to fight on two levels and to extend his resources to more than just street-level fighting.
126. How does subterranean terrain impact urban operations?
  - a. The presence of subterranean passages forces defenders to cover urban areas above and below ground with observation and fire. Subterranean passages are more a disadvantage to defenders than the attackers are. However, given the confining, dark environment of these passages, they do offer some advantages when thoroughly reconnoitered and controlled by the defender. A small group of determined Soldiers in a prepared defensive position can defeat a numerically superior force.
127. What are advantages of subterranean passages?
  - a. Subterranean passages—

- b. Provide covered and concealed routes to move reinforcements or to launch counterattacks.
  - c. Can be used as lines of communications, for movement of supplies, evacuation of casualties, and to cache supplies for forward companies.
  - d. Offer defenders a ready-made conduit for communications wire, protecting it from tracked vehicles and indirect fires.
  - e. Afford attackers little cover and concealment other than darkness and any manmade barriers.
128. How do mountainous areas impact combat operations?
- a. Combat in mountainous areas present units with complicated hazards, difficulties, opportunities, and risks. Mountainous combat operations call for high levels of physical fitness, mental toughness, endurance, and tactical and technical proficiency on the part of all individuals. A disciplined and prepared Infantry platoon and squad is task-organized with and supported by other members of the combined arms team, which are crucial to small-unit mountain operations. Units fighting in mountainous areas, overcome difficulties, measures risks, and exploit opportunities to close with and defeat the enemy. Prepared leaders anticipate, understand, and adapt to physical demands of mountainous environments. They face and overcome challenges of fighting in areas where technological supremacy can be negated by crude and nontechnical enemy actions. Unit leaders who know what to expect during mountainous operations create situations allowing their units to adapt to challenges and achieve victory in all environments.
129. Infantry units conducting operations in mountainous terrain are able to adapt and skillfully use environmental challenges to their advantage. What are considerations for conducting large scale combat operations in mountainous terrain?
- a. Close fights with dismounted Infantry. Mountainous combat often is close in nature as opposing forces meet on rugged terrain. Though engaging targets near limits of direct fire weapons occurs in mountainous engagements, intervening crests, hills, ridges, gullies, depressions, and other terrain features often limit long-range battles with the enemy. Upper levels of mountainous terrain are characterized by lack of trafficable roads. Use of vehicles often is restricted, forcing dismounted operations. Decentralized small unit operations. Conflicts in mountainous environments are often fought on platoon and squad level, as terrain commonly does not support movement and maneuver of large units. Compartmentalization of mountainous terrain can separate brigades from battalions, battalions from companies, and companies from platoons for long periods. As altitude increases in mountainous environments, terrain generally becomes more rugged and restrictive, which drives the need for decentralized execution of missions by dismounted platoons and squads.
  - b. Degraded mobility and increased movement times. Ruggedness of mountainous terrain often restricts mobility to foot movements using file-type formations on roads and trails. A relatively short distance from point to point may be an arduous

movement over steep, rocky, uneven terrain with multiple trail switchbacks increasing distance traveled and tremendous energy expenditure.

- c. Unique sustainment solutions. Sustainment in mountainous environments is challenging and time-consuming. Terrain and weather complicate virtually all sustainment operations including logistics resupply, medical evacuation, casualty evacuation, and Soldier health and hygiene. Network of restrictive mountainous roads often does not support resupply vehicles with large turning radius, or permit two-way traffic. Movement of supplies often involves a combination of movement types including air, vehicle, foot, and animal, with each technique having its own challenges in mountainous environments.
  - d. Operations in thinly populated areas. Populace in typical mountainous environments mostly live in small villages in valleys, with some scattered villages in upper mountainous areas. Although farmers and animal herders make up a large majority of the indigenous population and may work higher up in altitude, the vast majority of mountainous terrain remains unpopulated.
130. How do enemy forces use tunnels, caves, etc. for combat operations?
- a. Tunnels, caves, and dry wells have historically been used for hiding places, food and weapons caches, headquarters complexes, protection against air strikes and artillery fire. Enemy personnel use these areas for both offensive and defensive actions. An extensive tunnel system containing rooms for storage and hiding as well as passages to interconnected fighting points may be encountered. Tunnels and caves are not only dangerous obstacles but can be an outstanding source of enemy information. Presence of a tunnel complex within or near an area of operations poses a continuing threat to all personnel in the area and no area containing tunnel complexes should ever be considered completely cleared.
131. What is an important consideration for search and destroy operations near tunnel complexes?
- a. Since tunnel complexes are carefully concealed and camouflaged, search and destroy operations should provide adequate time for thorough searches of an area to locate all tunnels and caves. Using of local nationals and host-nation scouts can be of great assistance in locating caves, tunnels, defensive positions, and likely ambush sites. Caves, trenches, spider holes, and tunnels are well incorporated into mountainous terrain and enemy operations and may be used as a deception to draw friendly forces into a cave or tunnel system rigged with booby traps or set with an ambush.
132. Why does the platoon leader use formations?
- a. The platoon leader uses formations for several purposes: to relate one squad to another on the ground; to position firepower to support the direct-fire plan; to establish responsibilities for area of operation security among squads; or to aid in the execution of battle drills. Just as he does with movement techniques, the platoon leader plans formations based on where he expects enemy contact, and on the company commander's plans to react to contact. The platoon leader evaluates the situation and decides which formation best suits the mission and situation. Every squad and Soldier has a standard position. Soldiers can see their

team leaders. Fire team leaders can see their squad leaders. Leaders control their units using arm-and-hand signals and intra-squad/team communications. Formations also provide 360-degree security and allow units to give the majority of their firepower to the flanks or front in anticipation of enemy contact. Formations do not demand parade-ground precision. Platoons and squads must retain the flexibility needed to vary their formations to the situation. Using formations allows Soldiers to execute battle drills quickly and gives them the assurance their leaders and buddy team members are in the expected positions and performing the right tasks.

133. How does METT-TC influence formation usage?
  - a. Sometimes platoon and company formations differ due to METT-TC. For example, the platoons could move in wedge formations within a company vee. It is not necessary for platoon formations to be the same as the company formation unless directed by the company commander. However, the platoon leader coordinates his formation with other elements moving in the main body team's formation.
134. What two variables make up combat formations?
  - a. Combat formations are composed of two variables: lateral frontage, represented by the line formation; and depth, represented by the column formation. The advantages attributed to one of these variables are disadvantages to the other. Leaders combine the elements of lateral frontage and depth to determine the best formation for their situation. In addition to the line and column/file, the other five types of formations—box, vee, wedge, diamond, and echelon—combine these elements into varying degrees. Each does so with different degrees of emphasis resulting in unique advantages and disadvantages
135. What two categories can combat formations be grouped into?
  - a. The seven combat formations can be grouped into two categories: formations with one lead element, and formations with more than one lead element. The formations with more than one lead element, as a general rule, are better for achieving fire superiority to the front, but are more difficult to control. Conversely, the formations with only one lead element are easier to control but are not as useful for achieving fire superiority to the front.
136. Why should leaders try to maintain flexibility in their formations?
  - a. Leaders attempt to maintain flexibility in their formations. Doing so enables them to react when unexpected enemy actions occur. The line, echelon, and column formations are the least flexible of the seven formations. The line mass to the front has vulnerable flanks. The echelon is optimized for a flank threat, something units want to avoid. The column has difficulty reinforcing an element in contact. Leaders using these formations should consider ways to reduce the risks associated with their general lack of flexibility.
137. What does the term fire team formation refer to?
  - a. The term fire team formation refers to the Soldiers' relative positions within the fire team. Fire team formations include the fire team wedge and fire teams file. (See table 2-2.) Both formations have advantages and disadvantages.

Regardless of which formation the team employs, each Soldier must know his location in the formation relative to the other fire team members and team leader. Each Soldier covers a set area of responsibility for observation and direct fire as the team is moving. To provide the unit with all-around protection, these areas interlock. Team leaders are constantly aware of their teams' sectors of fire and correct them as required.

138. How does the team leader adjust the teams formation?
  - a. The team leader adjusts the team's formation as necessary while the team is moving. The distance between Soldiers will be determined by the mission, the nature of the threat, the closeness of the terrain, and by the visibility. As a general rule, the unit should be dispersed up to the limit of control. This allows for a wide area to be covered, makes the team's movement difficult to detect, and makes it less vulnerable to enemy ground and air attack. Fire teams rarely act independently. However, in the event they do, when halted, they use a perimeter defense to ensure all-around security.
139. What are the characteristics of the wedge?
  - a. The wedge (see figure 2-7) is the basic formation of the fire team. The interval between Soldiers in the wedge formation is normally 10 meters. The wedge expands and contracts depending on the terrain. Fire teams modify the wedge when rough terrain, poor visibility, or other factors make control of the wedge difficult. The normal interval is reduced so all team members still can see their team leader and all team leaders still can see their squad leader. The sides of the wedge can contract to the point where the wedge resembles a single file. Soldiers expand or resume their original positions when moving in less rugged terrain where control is easier.
140. How does the team leader influence his subordinates in a formation?
  - a. In this formation the fire team leader is in the lead position with his men echeloned to the right and left behind him. The positions for all but the leader may vary. This simple formation permits the fire team leader to lead by example. The leader's standing order to his Soldiers is, "Follow me and do as I do." When he moves to the right, his Soldiers should move to the right. When he fires, his Soldiers fire. When using the lead-by-example technique, it is essential for all Soldiers to maintain visual contact with their leader.
141. What should the file be used?
  - a. Team leaders use the file when employing the wedge is impractical. This formation most often is used in severely restrictive terrain, like inside a building; dense vegetation; limited visibility; and so forth. The distance between Soldiers in the column changes due to constraints of the situation, particularly when in urban operations.
142. What does the term squad formation refer to?
  - a. The term squad formation refers to the relative locations of the fire teams. Squad formations include the squad column, the squad line, and squad file.
143. How does the squad leader adjust the squad's formation?

- a. The squad leader adjusts the squad's formation as necessary while moving, primarily through the three movement techniques. The squad leader exercises mission command primarily through the two team leaders and moves in the formation where he can best achieve this. The squad leader is responsible for 360-degree security, for ensuring the team's sectors of fire are mutually supporting, and for being able to rapidly transition the squad upon contact. The squad leader designates one of the fire teams as the base fire team. The squad leader controls the squad's speed and direction of movement through the base fire team while the other team and attachments cue their movement off the base fire team. This concept applies when not in contact and when in contact with the enemy.
144. What are considerations for attaching weapons to the movement element?
- a. Weapons from the weapons squad (a medium machine gun or a Javelin) may be attached to the squad for movement or throughout the operation. These high value assets need to be positioned so they are protected and can be quickly brought into the engagement when required. Ideally, these weapons should be positioned so they are between the two fire teams.
145. What are the characteristics of the squad column?
- a. The squad column is the squad's main formation for movement unless preparing for an assault. (See figure 2-9.) It provides good dispersion both laterally and in-depth without sacrificing control. It also facilitates maneuver. The lead fire team is the base fire team. Squads can move in either a column wedge or a modified column wedge. Rough terrain, poor visibility, and other factors can require the squad to modify the wedge into a file for control purposes. As the terrain becomes less rugged and control becomes easier, the Soldiers resume their original positions.
146. What are the characteristics of the squad line?
- a. The squad line provides maximum firepower to the front and is used to assault or as a pre-assault formation. (See figure 2-10, page 2-26.) To execute the squad line, the squad leader designates one of the teams as the base team. The other team cues its movement off the base team. This applies when the squad is in close combat as well. From this formation, the squad leader can employ any of the three movement techniques or conduct fire and movement.
147. What are the characteristics of the squad file?
- a. The squad file has the same characteristics as the fire team file. (See figure 2-11.) In the event the terrain is severely restrictive or extremely close, teams within the squad file also may be in file. This disposition is not optimal for enemy contact, but provides the squad leader with maximum control. He increases control over the formation moving forward to the first or second position. Moving forward enables him to exert greater morale presence by leading from the front, and to be immediately available to make vital decisions. Moving a team leader to the last position can provide additional control over the rear of the formation.
148. What is the role of the weapons squad during movement?

- a. The weapons squad is not a rifle squad and should not be treated as such. During tactical movement the platoon leader has one of two options when it comes to positioning the weapons squad. The weapons squad can either travel as a separate entity, or can be broken up and distributed throughout the formation. The advantage to keeping the weapons squad together is the ability to quickly generate a support by fire and gain fire superiority under the direction of the weapons squad leader. The disadvantage to this approach is the lack of redundancy throughout the formation. The advantage to distributing the weapons squad throughout the rifle squads is the coverage afforded to the entire formation. The disadvantage is losing the weapons squad leader as a single mission command element and time required reassembling the weapons squad if needed.
149. What happens when the weapons squad travels dispersed?
- a. When the weapons squad travels dispersed, it can either be attached to squads or attached to the essential leaders like the platoon leader, platoon sergeant, and weapons squad leader. There is no standard method for its employment. Rather, the platoon leader places the weapons using two criteria: ability to quickly generate fire superiority, and protection for high value assets. Like the rifle squad, the weapon squad, when traveling as a squad, uses either a column or line formation. Within these formations, the two sections can be in column or line formation.
150. How many combinations of formations can the fireteam and squads within the platoon have?
- a. The actual number of useful combinations of squad and fire team combat formations within the platoon combat formations is numerous, creating a significant training requirement for the unit. Add to the requirement to modify formations with movement techniques, immediate action drills, and other techniques, and it is readily apparent what the platoon leader needs a few simple methods. These methods should be detailed in the unit SOP.
151. How does the PL exercise mission authority?
- a. Like the squad leader, the platoon leader exercises mission command primarily through his subordinates and moves in the formation where he can best achieve this. The squad leader and team leader execute the combat formations and movement techniques within their capabilities based on the platoon leader's guidance.
152. What is the PL responsible for in the formation?
- a. The platoon leader is responsible for 360-degree security, for ensuring each subordinate unit's sectors of fire are mutually supporting, and for being able to rapidly transition the platoon upon contact. He adjusts the platoon's formation as necessary while moving, primarily through the three movement techniques. Like the squad and team, this determination is a result of the task, the nature of the threat, the closeness of terrain, and visibility. The platoon leader also is responsible for ensuring his squads can perform their required actions. He does this through training before combat and rehearsals during combat. Well-trained

squads are able to employ combat formations, movement techniques, actions on contact, and stationary formations.

153. How does the PL decide how to disperse the platoon HQ elements?
  - a. The platoon leader also has to decide how to disperse the platoon headquarters elements (himself, his RTO, his interpreter, forward observer, platoon sergeant, and medic). These elements do not have fixed positions in the formations. Rather, they should be positioned where they can best accomplish their tasks. The platoon leader's element should be where he conducts actions on contact, where he can supervise navigation, and where he can communicate with higher. The forward observer's element should be where he can best see the battlefield and where he can communicate with the platoon leader and battalion fire support officer. This is normally in close proximity to the platoon leader. The platoon sergeant's element should be wherever the platoon leader is not. Typically, this means the platoon leader is toward the front of the formation, while the platoon sergeant is toward the rear of the formation. Because of the platoon sergeant's experience, he should be given the freedom to assess the situation and advise the platoon leader accordingly.
154. How does the PL control the formation?
  - a. The platoon leader designates one of the squads as the base squad. He controls the platoon's speed and direction of movement through the base squad, while the other squads and attachments cue their movement off of the base squad.
155. How do infantry platoons and squads move?
  - a. Infantry platoons and squads often move as part of a larger unit's movement. The next higher commander assigns the platoon a position within the formation. The platoon leader assigns his subordinates an appropriate formation based on the situation, and uses the appropriate movement technique. Regardless of the platoon's position within the formation, it must be ready to make contact or to support the other elements by movement, by fire, or by both.
156. How does the company commander control the formation?
  - a. When moving in a company formation, the company commander normally designates a base platoon to facilitate control. The other platoons cue their speed and direction on the base platoon. This permits quick changes and lets the commander control the movement of the entire company by controlling only the base platoon. The company commander normally locates himself within the formation where he can best see and direct the movement of the base platoon. The base platoon's center squad is usually its base squad. When the platoon is not acting as the base platoon, its base squad is its flank squad nearest the base platoon.
157. What are examples of platoon formations?
  - a. Platoon formations include the column, the line (squads on line or in column), the vee, the wedge, and the file. The leader should weigh these carefully to select the best formation based on his mission and on METT-TC analysis. Comparisons of the different formations are in table 2-4. The figures below are examples and do not dictate the location of the platoon leader or platoon sergeant.

158. What is the base squad in the platoon column?
- In the platoon column formation, the lead squad is the base squad. (See figure 2-12.) It normally is used for traveling only.
159. How does the company commander choose the base platoon in the platoon line?
- In the platoon line, squads on line formation, or when two or more platoons are attacking, the company commander chooses one of them as the base platoon. The base platoon's center squad is its base squad. When the platoon is not acting as the base platoon, its base squad is its flank squad nearest the base platoon. The weapons squad may move with the platoon or it can provide the support-by-fire position. This is the basic platoon assault formation. (See figure 2-13.) The platoon line with squads on line is the most difficult formation from which to make the transition to other formations. It may be used in the assault to maximize the firepower and shock effect of the platoon. This normally is done when there is no intervening terrain between the unit and the enemy when antitank systems is suppressed, or when the unit is exposed to artillery fire and must move rapidly.
160. What happens when two or more platoons are moving?
- When two or more platoons are moving, the company commander chooses one of them as the base platoon. The base platoon's center squad is its base squad. When the platoon is not the base platoon, its base squad is its flank squad nearest the base platoon. (See figure 2-14.) The platoon line with squads in column formation is difficult to transition to other formations.
161. What are the characteristics of the line formation?
- All elements are arranged in a row.
  - Observation and fires are oriented forward; minimal observation and fires to the flanks.
  - Each subordinate unit on the line must clear its own path forward.
  - One subordinate is used as a base on which everyone bases their movement.
162. What are the advantages and disadvantages of the line formation?
- Advantages
  - Frontal fire superiority
  - Clears a large area
  - Disperses troops
  - Can transition to bounding overwatch, base of fire, or assault quickly.
  - 
  - Disadvantages
  - More difficult to control in limited visibility and in restrictive terrain.
  - Vulnerable flanks
  - Large signature
163. What are the characteristics of the column/file formation?
- One lead element
  - Observation and fires face towards the sides, not the front
  - One single route of travel which means the route is only impacted by obstacle on one route.

164. What are the advantages and disadvantages of the column/file formation?
- a. Advantages
  - b. Easiest to control
  - c. Easy to generate maneuver elements upon enemy contact
  - d. Secure flanks
  - e. Speed
  - f.
  - g. Disadvantages
  - h. Reduced frontal fire superiority
  - i. Clears a limited area and concentrates the unit
  - j. Poor transition to bounding overwatch or base of fire elements
  - k. Good target for enfilading fire
165. What are the characteristics of the vee formation?
- a. Two lead elements
  - b. Trail elements move between lead elements
  - c. Used when frontal contact is expected
  - d. "Reverse wedge"
166. What are the advantages and disadvantages of the vee formation?
- a. Advantages
  - b. Frontal fire superiority
  - c. Easy to generate a maneuver element
  - d. Secures flanks
  - e. Easy troop dispersion
  - f. Easy transition to bounding over watch, base of fire, assault
  - g.
  - h. Disadvantages
  - i. Control difficulty increases in areas of limited visibility
  - j. Potentially slow
167. What are the characteristics of the box formation?
- a. 2 lead elements
  - b. Trail elements follow lead elements
  - c. 360 degree security
168. What are the advantages and disadvantages of the box formation?
- a. Box formation Advantages
  - b. Frontal fire superiority
  - c. Easy to generate a maneuver element
  - d. Secures flanks
  - e. Easy troop dispersion
  - f. Easy transition to bounding over watch, base of fire, assault
  - g.
  - h. Box formation Disadvantages
  - i. Control difficulty increases in areas of limited visibility
  - j. Potentially slow
169. What are the characteristics of the wedge formation?

- a. 1 lead element
  - b. Trail elements are paired off on the flanks
  - c. Used in uncertain tactical situations
170. What are the advantages and disadvantages of the wedge formation?
- a. Advantages
  - b. Great control over elements
  - c. Transition trail elements to base of fire or assault
  - d. Front and flanks are secure
  - e. Easy transition to line and column when necessary
  - f.
  - g. Disadvantages
  - h. Trail elements are required to clear their own path through terrain
  - i. Transition to other formations is required in close terrain
171. What are the characteristics of the diamond formation?
- a. Similar to the wedge formation
  - b. 4th element the lead element
172. What are the advantages and disadvantages of the diamond formation?
- a. Diamond Advantages
  - b. Great control over elements
  - c. Transition trail elements to base of fire or assault
  - d. Front and flanks are secure
  - e. Easy transition to line and column when necessary
  - f.
  - g. Diamond Disadvantages
  - h. Trail elements are required to clear their own path through terrain
  - i. Transition to other formations is required in close terrain
173. What are the characteristics of the echelon formation?
- a. Elements are deployed diagonally left or right.
  - b. Observation and fire to the front and back
174. What are the advantages and disadvantages of the echelon formation?
- a. Echelon Advantages
  - b. Ability to assign sectors the encompass front and back sectors
  - c.
  - d. Echelon Disadvantages
  - e. Hard to maintain subordinate relationships
  - f. Vulnerable to opposite flanks
175. How does the platoon vee function?
- a. This formation has two squads up front to provide a heavy volume of fire on contact. (See figure 2-15, page 2-34.) It also has one squad in the rear either overwatching or trailing the other squads. The platoon leader designates one of the front squads as the platoon's base squad.
176. How is the wedge formation structured?
- a. This formation has two squads in the rear overwatching or trailing the lead squad. (See figure 2-16.) The lead squad is the base squad.

- b. The wedge formation—
  - c. Can be used with the traveling and traveling overwatch techniques.
  - d. Allows rapid transition to bounding overwatch.
177. How can the platoon file be structured?
- a. This formation may be set up in several methods. (See figure 2-17, page 2-36.) One method is to have three-squad files follow one another using one of the movement techniques. Another method is to have a single platoon file with a front security element (point) and flank security elements. The distance between Soldiers is less than normal to allow communication by passing messages up and down the file. The platoon file has the same characteristics as the fire team and squad files. It normally is used for traveling only.
178. How does the platoon leader use formations?
- a. The platoon leader uses formations to relate one vehicle or squad to another on the ground and to position firepower to support the direct fire plan. He uses them to establish responsibilities for security between vehicles or squads and to aid in the execution of battle drills and directed course of action.
179. What formations does the platoon use when mounted?
- a. When mounted, the platoon uses the column, wedge, line, echelon, coil, and herringbone formations (based on METT-TC variables). The platoon leader tracks his platoon's formation and movement in conjunction with the company's formation. Table 2-5 shows characteristics, advantages, and disadvantages of each type of standard mounted formations.
180. When does the platoon use the column?
- a. The platoon uses the column when moving fast, when moving through restricted terrain on a specific route, or when it does not expect enemy contact. Each vehicle normally follows directly behind the vehicle in front of it. However, if the situation dictates, vehicles can disperse laterally to enhance security. This is sometimes referred to as a staggered column.
181. What are the characteristics of the staggered column?
- a. The staggered column formation is a modified column formation with one section leading, and one section trailing to provide overwatch. The staggered column permits good fire to the front and flanks. It is used when speed is critical, when there is a limited area for lateral dispersion, or when enemy contact is possible. Figure 2-18 (page 2-38) shows this type of column movement.
182. What are the characteristics of the wedge formation?
- a. The wedge formation (see figure 2-19), permits excellent firepower to the front and good fire to each flank. The platoon leader can easily control all vehicles and deploy rapidly into other formations. The wedge formation is often used when the enemy situation is vague. The orientation of the pairs is left and right. The platoon leader and platoon sergeant control the other vehicle (wingman) of their pair by directing it to follow to the outside and to orient its weapons toward the flanks. When the platoon leader's vehicle is slightly forward one flank has more firepower. Depending on METT-TC, the platoon leader makes the adjustment to which side needs the most fire power.

183. When can the line formation be used?
- When assaulting a weakly defended objective, crossing open areas, or occupying a support-by-fire position, the platoon mainly uses the line formation shown in figure 2-20, page 2-40. The platoon can use the line formation in the assault to maximize the platoon's firepower and shock effect. The platoon normally uses the line formation when no terrain remains between it and the enemy, when the platoon has suppressed the enemy's AT weapons, or when the platoon is vulnerable to artillery fire and must move fast.
184. When does the company use the echelon formation?
- When the company team wants to maintain security or observation of one flank, and when the platoon does not expect enemy contact, the platoon uses the echelon formation shown in figure 2-21.
185. When are the coil and herringbone formations used?
- The coil and herringbone are platoon-level formations employed when elements of the company team are stationary and must maintain 360-degree security.
186. When is the coil used?
- The coil (see figure 2-22, page 2-42) provides all-round security and observation when the platoon is stationary. It is useful for tactical refueling, resupply, and issuing platoon orders. Security is posted to include air guards and dismounted fire teams. The vehicle turrets are manned.
187. When does the platoon use the herringbone formation?
- The platoon uses the herringbone to disperse when traveling in column formation (see figure 2-23). They can use it during air attacks or when they must stop during movement. It lets them move to covered and concealed positions off a road or from an open area and set up all-round security without detailed instructions. They reposition the vehicles as needed to take advantage of the best cover, concealment, and fields of fire. Fire team members dismount and establish security.
188. Are movement techniques formations?
- Movement techniques are not fixed formations. They refer to the distances between Soldiers, teams, and squads vary based on mission, enemy, terrain, visibility, and other factors affecting control. There are three movement techniques: traveling; traveling overwatch; and bounding overwatch. The selection of a movement technique is based on the likelihood of enemy contact and need for speed. Factors to consider for each technique are control, dispersion, speed, and security. (See table 2-6, page 2-44.) Individual movement techniques include high and low crawl, and three to five second rushes from one covered position to another.
189. When is traveling used?
- Traveling is used when contact with the enemy is not likely and speed is needed. (See figure 2-24.)
190. When is traveling overwatch used?
- Traveling overwatch is used when contact is possible. Attached weapons move near and under the control of the squad leader so they can employ quickly. Rifle

squads normally move in column or wedge formation. (See figure 2-25.) Ideally, the lead team moves at least 50 meters in front of the rest of the element.

191. When is bounding overwatch used?
  - a. Bounding overwatch is used when contact is expected, the squad leader feels the enemy is near (based upon movement, noise, reflection, trash, fresh tracks, or even a hunch), or a large open danger area must be crossed. The lead fire team overwatches first. Soldiers in the overwatch team scan for enemy positions. The squad leader usually stays with the overwatch team. The trail fire team bounds and signals the squad leader when his team completes its bound and is prepared to overwatch the movement of the other team.
192. What role must team leaders play in bounding overwatch?
  - a. Both team leaders must know with which team the squad leader will be. The overwatching team leader must know the route and destination of the bounding team. The bounding team leader must know his team's destination and route, possible enemy locations, and actions to take when he arrives there. He also must know where the overwatching team will be and how he will receive his instructions. (See figure 2-26.) The cover and concealment on the bounding team's route dictates how its Soldiers move. Teams can bound successively or alternately. Successive bounds are easier to control; alternate bounds can be faster. (See figure 2-27.)
193. Who determines which movement technique the platoon uses?
  - a. The platoon leader determines and directs which movement technique the platoon uses. While moving, leaders typically separate their unit into two groups: a security element and main body. In most scenarios, the Infantry platoon and squad are not large enough to separate its forces into separate security forces and main body forces. However, it is able to accomplish these security functions by employing movement techniques. A movement technique is the manner a platoon uses to traverse terrain
194. What occurs are the probability of enemy contact increases?
  - a. As the probability of enemy contact increases, the platoon leader adjusts the movement technique to provide greater security. The essential factor to consider is the trail unit's ability to provide mutual support to the lead element. Soldiers must be able to see their fire team leader. The squad leader must be able to see his fire team leaders. The platoon leader should be able to see his lead squad leader.
195. When will platoons use traveling movement techniques?
  - a. The platoons often use the traveling technique when contact is unlikely and speed is needed. (See figure 2-28, page 2-48.) When using the traveling technique, all unit elements move continuously. In continuous movement, all Soldiers travel at a moderate rate of speed, with all personnel alert. During traveling, formations are essentially not altered except for effects of terrain.
196. What are the characteristics of traveling overwatch?
  - a. Traveling overwatch is an extended form of traveling in which the lead element moves continuously but trailing elements move at varying speeds, sometimes

pausing to overwatch movement of the lead element. (See figure 2-29.) Traveling overwatch is used when enemy contact is possible but not expected. Caution is justified but speed is desirable.

197. How does the trail element base dispersion off of?
  - a. The trail element maintains dispersion based on its ability to provide immediate suppressive fires in support of the lead element. The intent is to maintain in-depth, provide flexibility, and sustain movement in case the lead element is engaged. The trailing elements cue their movement to the terrain, overwatching from a position where they can support the lead element if needed. Trailing elements overwatch from positions and at distances that do not prevent them from firing or moving to support the lead element. The idea is to put enough distance between the lead units and trail units so that if the lead unit comes into contact, the trail units will be out of contact but have the ability to maneuver on the enemy.
198. What does traveling overwatch require?
  - a. Traveling overwatch requires the leader to control his subordinate's spacing to ensure mutual support. This involves a constant process of concentrating (close it up) and dispersion (spread it out). The primary factor is mutual support, with its two critical variables being weapon ranges and terrain. Infantry platoons' and squads' weapon range limitations dictate units generally should not get separated by more than 300 meters. In compartmentalized terrain this distance is closer, but in open terrain this distance is greater.
199. What is bounding overwatch similar to?
  - a. Bounding overwatch is similar to fire and movement in which one unit overwatches the movement of another. (See figure 2-30, page 2-50.) The difference is there is no actual enemy contact. Bounding overwatch is used when the leader expects contact. The key to this technique is the proper use of terrain. One squad bounds forward to a chosen position; it then becomes the overwatching element unless contact is made en route. The bounding squad can use traveling overwatch, bounding overwatch, or individual movement techniques (low and high crawl, and three- to five-second rushes by the fire team or buddy teams).
200. What dictates the length of the bounds?
  - a. METT-TC dictates the length of the bounds. However, the bounding squads never should move beyond the range at which the base-of-fire squads can suppress known, likely, or suspected enemy positions. In severely restrictive terrain, the bounding squad's makes shorter bounds than it would in more open areas. The destination of the bounding element is based on the suitability of the next location as an overwatch position. When deciding where to send his bounding squad, a platoon leader considers—
  - b. The requirements of the mission.
  - c. Where the enemy is likely to be.
  - d. The routes to the next overwatch position.
  - e. The ability of an overwatching element's weapons to cover the bound.

- f. The responsiveness of the rest of the platoon.
201. How do the squads interact during bounding overwatch?
- a. One squad overwatches the bounding squad from covered positions and from where it can see and suppress likely enemy positions. The platoon leader remains with the overwatching squad. Normally, the platoon's medium machine guns are located with the overwatching squad. Based on the situation, one squad is uncommitted and ready for employment as directed by the platoon leader. The platoon sergeant and leader of the squad awaiting orders position themselves close to the platoon leader. On contact, this unit should be prepared to support the overwatching element, move to assist the bounding squad, or move to another location based on the platoon leader's assessment.
202. How are machine guns employed during bounding overwatch?
- a. Medium machine guns normally are employed in one of two ways—
  - b. Attached to the overwatch squad or the weapons squad supporting the overwatching element.
  - c. Awaiting orders to move (with the platoon sergeant) or as part of a bounding element.
203. How does the overwatch element maintain contact with the bounding element?
- a. Ideally, the overwatch element maintains visual contact with the bounding element. However, the leader of the overwatch element may have the ability to digitally track the location of the bounding element without maintaining visual contact. This provides the bounding element further freedom in selecting covered and concealed routes to its next location. Before a bound, the platoon leader gives an order to his squad leaders from the overwatch position. (See figure 2-31, page 2-52.) He tells and shows them the following:
    - b. The direction or location of the enemy (if known).
    - c. The positions of the overwatching squad.
    - d. The next overwatch position.
    - e. The route of the bounding squad.
    - f. What to do after the bounding squad reaches the next position.
    - g. What signal the bounding squad will use to announce it is prepared to overwatch.
    - h. How the squad will receive its next orders.
204. When does the platoon travel mounted?
- a. The platoon travels mounted when contact with the enemy is not likely and speed is desired. (See figure 2-32.) The leader analyzes the latest intelligence on the enemy and determines if contact with the enemy is unlikely.
205. What happens if elements lose contact with one another while traveling?
- a. Because units generally move faster when traveling mounted, leaders must remember the increased potential for a break in contact.
  - b. Should a break in contact occur—
  - c. The leader or detached element uses global positioning system (GPS) aids to reestablish contact with the main body.
  - d. The platoon's main body can use an infrared or thermal source to regain visual contact with the element and link it back to the main body.

206. When should the PL consider traveling overwatch?
- The platoon leader uses traveling overwatch when he thinks contact could occur. (See figure 2-33, page 2-54.) He designates one of his subordinate elements to provide security forward of the main body. In some cases, the improved awareness might prompt the security element to increase these distances. Leaders track the movement of forward security elements. They get position updates to ensure the forward security element remains on azimuth and within range of supporting direct fires.
207. What should the PL consider bounding overwatch?
- When the platoon leader expects enemy contact, he uses bounding overwatch. He initiates it based on planning reports received earlier about the enemy situation and on SITREPs received during movement. He bounds elements using successive or alternate bounds. (See figure 2-34.)
208. What does the leader do before bounding?
- Before bounding, the leader shows the bounding element the location of the next overwatch position. Ideally, the overwatch element keeps the bounding element in sight. Once the bounding element reaches its overwatch position, it signals READY by voice or visual means to the element that overwatched it's bound. (See figure 2-35, page 2-56.) The platoon leader makes sure the bounding element stays within two-thirds of the weapons range of the overwatch element.
209. When does maneuver begin?
- Maneuver begins once a unit has made contact with the enemy. Direct fire is inherent in maneuver, as is close combat. At the mounted platoon level, maneuver forms the heart of every tactical operation and task. It combines maneuver, direct and indirect fire, and other combat power. The platoon leader maneuvers his mounted element and dismounted squads to close with, gain positional advantage over, and ultimately destroy the enemy.
210. What does combining fire and movement require?
- Combining fire and movement requires a base of fire. Some platoon elements (usually a section, the weapons squad, and the BFVs or Stryker) remain stationary to provide protection for bounding elements by suppressing or destroying enemy elements. The dismounted mechanized platoon can maneuver while protected by the BFVs in a base-of-fire position and then establish another base of fire with the weapons or a rifle squad.
211. What does the PL determine from terrain analysis while maneuvering?
- Because maneuver is decentralized in nature, the platoon leader determines from his terrain analysis where and when he wants to establish a base of fire. During actions on contact, he adjusts maneuver plans as needed. Making maneuver decisions normally falls to the leader on the ground, who knows what enemy elements can engage the maneuvering element and what friendly forces can provide the base of fire.
212. What role does the base of fire play in maneuver?
- The base-of-fire element occupies positions that afford the best possible cover and concealment, a clear view, and clear fields of fire. The platoon leader

normally designates a general location for the base of fire, and the element leader selects the exact location. Once in position, the base-of-fire element suppresses known, likely, or suspected enemy elements while aggressively scanning its assigned area of operation. It identifies previously unknown elements and then suppresses them with direct and indirect fires. The base-of-fire element allows the bounding unit to keep maneuvering so it can retain the initiative even when the enemy can see and fire on it. While maneuvering to or in position, the base-of-fire element leader is constantly looking for other locations that may provide better support for the maneuvering element.

213. Why is maneuver dangerous?
- Maneuver is inherently dangerous. Enemy weapons, unknown terrain, and other operational factors all increase the danger. When maneuvering, the platoon leader considers the following:
  - The bounding element must take full advantage of whatever cover and concealment the terrain offers.
  - Squad members must maintain all-round security at all times and continuously scan their assigned area of operations.
  - METT-TC variables dictate the length of the bounds. However, the bounding element should never move beyond the range at which the base-of-fire element can effectively suppress known, likely, or suspected enemy positions. General practice is to limit movement to no more than two-thirds the effective range of the supporting weapon system. In severely restricted terrain, the bounding element makes shorter bounds than it would in more open areas. The bounding element must focus on its ultimate goal—gaining a positional advantage. Once achieved, the element uses this advantage to destroy the enemy with direct fires and dismounted infantrymen assault.
214. What must the PL consider when deciding when to dismount infantry during maneuver?
- When to dismount Infantry during maneuver is a critical decision for the platoon leader. He must balance the vulnerability of his mounted element, the speed and vulnerability of his dismounted infantrymen, and the effectiveness of the enemy's fire. The platoon leader can use successive bounds with his dismounted infantrymen moving along covered and concealed routes to secure the next base-of-fire position.
215. What are reasons to keep troops mounted?
- Open terrain.
  - Good covered and concealed mounted routes.
  - Ineffective antiarmor fires.
  - Maneuver distance.
216. What are considerations for dismounting?
- Good covered and concealed terrain for Infantry.
  - Effective antiarmor fire.
  - Restricted terrain and obstacles for mounted movement.

217. How do stryker units plan dismount points?
- Stryker units plan dismount points in a cover and concealed position out of the maximum effective range of the enemy weapon systems or audible range based on the last known enemy point of contact or suspected position.
218. What are the purposes of creating a reserve force?
- The designation of a reserve allows the commander to retain flexibility during the attack. The commander should be prepared to commit his reserve to exploit success and to continue the attack. The reserve may repulse counterattacks during consolidation and reorganization. The reserve is normally under the commander's control and positioned where it can best exploit the success of the attack. The reserve should not be so close that it loses flexibility during the assault.
219. How may an element be designated as a reserve?
- During the attack, the mechanized platoon may be designated the company or battalion reserve. It may be an on-order or be-prepared mission. The company or battalion commander commits the reserve platoon to reinforce the decisive operation and to maintain the attack's momentum. To exploit the success of the other attacking units, the reserve should attack the enemy from a new direction. Because of the many missions the platoon may be assigned, the platoon leader has to maintain situational awareness, know the missions and tactical plans of the other units, and be familiar with the terrain and enemy situation in the whole area of operation. It must react quickly and decisively when committed.
220. The reserve platoon may be assigned what missions?
- Protect the flank and rear of the unit.
  - Conduct a counterattack or establish a blocking position.
  - Maintain contact with adjacent units.
  - Clear a position that has been overrun or bypassed by another unit.
  - Establish a support-by-fire position.
  - Assume the mission of an attacking unit.
  - Attack from a new direction.
  - Protect or assist in the consolidation and reorganization on the objective.
221. What are actions on contact?
- Actions on contact are a series of combat actions, often conducted simultaneously, taken upon contact with the enemy to develop the situation. (Refer to ADRP 3-90 for more information.) Leaders analyze the enemy throughout TLP to identify all likely contact situations that may occur during an operation. This process should not be confused with battle drills such as Battle Drill "React to Contact." Battle drills are the actions of individual Soldiers and small units when they meet the enemy. Through planning and rehearsals conducted during TLP, leaders and Soldiers develop and refine COA to deal with the probable enemy actions. The COA becomes the foundation schemes of maneuver.
222. What is the definition of contact?

- a. In offensive and defensive tasks, contact occurs when a member of the Infantry unit encounters a situation requiring a lethal or nonlethal response to the enemy. These situations may entail one or more forms of contact:
  - b. Direct.
  - c. Indirect.
  - d. Non-hostile civilian contact.
  - e. Obstacles.
  - f. CBRN or CBRNE.
  - g. Aerial.
  - h. Visual.
  - i. Electronic warfare.
- 223. How should infantry units execute actions on contact?
  - a. The Infantry unit should execute actions on contact using a logical, wellorganized process of decisionmaking and action entailing these five steps:
  - b. Deploy and report.
  - c. Evaluate and develop the situation.
  - d. Choose a course of action.
  - e. Execute the selected course of action.
  - f. Recommend a course of action to the higher commander.
- 224. What is the purpose of the five-step process?
  - a. This five-step process is not intended to generate a rigid, lockstep response to the enemy. Rather, the goal is to provide an orderly framework enabling the company and its platoons and squads to survive the initial contact, and apply sound decisionmaking and timely actions to complete the operation. Ideally, the unit sees the enemy (visual contact) before being seen by the enemy; it then can initiate direct contact on its own terms by executing the designated COA.
- 225. What happens when the lead elements of a force conducting movement to contact encounter the enemy?
  - a. Once the lead elements of a force conducting movement to contact encounter the enemy, they conduct actions on contact. The unit treats obstacles like enemy contact, assuming the obstacles are covered by fire. The unit's security force gains tactical advantage over an enemy by using tempo and initiative to conduct these actions, allowing it to gain and maintain contact without becoming decisively engaged. How quickly the unit develops the situation is directly related to its security, and the tempo is directly related to the unit's use of well-rehearsed SOP and drills.
- 226. What must leaders understand when conducting movement to contact?
  - a. Leaders understand properly executed actions on contact require time at the squad and platoon levels. To develop the situation, a platoon or company may have to execute flanking movements, conduct reconnaissance by fire, or call for and adjust indirect fires. Each of these activities requires time, and the leader balances the time required for subordinate elements to conduct actions on contact with the need for the company or battalion to maintain momentum.
- 227. How is the company or platoon deployed if leaders expect contact based on reports?

- a. If the leader expects contact based upon reports, through reconnaissance, or other means, the company or platoon is deployed by transitioning to the bounding overwatch movement technique. If the company or platoon is alert to the likely presence of the enemy, it has a better chance of establishing the first visual and physical contact on its own terms. This contact usually is made by an overwatching or bounding platoon, which initiates the companies or platoons' actions on contact. In a worst-case scenario, a previously undetected (but expected) enemy element may engage the platoon or squad. The platoon or squad in contact then conducts a battle drill for its own survival and initiates actions on contact.
228. What happens if contact is made while conducting traveling or traveling overwatch?
- a. In some cases, the platoon or squad makes unexpected contact with the enemy while using traveling or traveling overwatch. The element in contact or, if necessary, the entire platoon or squad may deploy using battle drills to survive the initial contact. When making unexpected contact, the platoon or squad in contact immediately sends a contact report. The most efficient way the battalion intelligence staff officer (S-2) provides situational understanding and the common operational picture (COP) to the battalion is through digital reports sent by those in contact. The Infantry company platoons and squads develop SOP utilizing the capabilities of digital reports while destroying the enemy force and protecting the unit.
229. What happens while infantry units deploy?
- a. While the Infantry unit deploys, the leader evaluates and continues to develop the situation. The leader quickly gathers as much information as possible, either visually or, more often, through reports of the platoons or squads in contact and analyzes the information to determine critical operational considerations, including the—
  - b. Size of enemy element.
  - c. Location, composition, activity, and orientation of enemy force.
  - d. Impact of obstacles and terrain.
  - e. Enemy capabilities.
  - f. Probable enemy intentions.
  - g. Method of gaining positional advantage over the enemy.
  - h. Friendly situation (location, strength, and capabilities).
  - i. Possible friendly courses of action to achieve the specified end state.
230. What actions are taken when the size of the enemy force in contact is determined?
- a. Once the leader determines the size of enemy force encountered by the Infantry unit, a report is sent to the platoon or company. However, after evaluating the situation, the leader may discover there is not enough information to identify the necessary operational considerations. To make this determination, the leader further develops the situation according to the commander's intent, using a combination of techniques such as—
  - b. Surveillance, employing Infantry squads, unmanned aircraft systems, and snipers using binoculars and other optical aids.

- c. Maneuver, including flanking maneuvers to gain additional information by viewing the enemy from another perspective.
  - d. Indirect fire.
  - e. Reconnaissance by fire.
  - f. After developing the situation and determining he has enough information to make a decision, the leader selects a COA meeting the requirements of the commander's intent that is within the unit's capabilities.
231. How does the infantry execute a COA? What are tactical tasks that may happen during a COA?
- a. In executing a COA, the Infantry unit transitions to maneuver. It then continues to maneuver throughout execution as part of a tactical task, or to advance while in contact to reach the point on the battlefield from which it executes its tactical task. The unit can employ a number of tactical tasks as COA, which may be preceded or followed by additional maneuver. Some of these tasks are—
  - b. Attack by fire.
  - c. Breach.
  - d. Bypass.
  - e. Clear.
  - f. Control.
  - g. Counterreconnaissance.
  - h. Disengagement.
  - i. Exfiltrate.
  - j. Follow and assume.
  - k. Follow and support.
  - l. Occupy.
  - m. Retain.
  - n. Secure.
  - o. Seize.
  - p. Support by fire.
232. Does the COA change as the unit maneuvers to engage the enemy?
- a. As execution continues, more information becomes available to the leader. Based upon the emerging details of the enemy situation, the leader may have to alter his COA during execution. For example, as the Infantry platoon maneuvers to destroy what appears to be a dismounted squad, it discovers two additional squads in prepared positions. The leader analyzes and develops the new situation. He then selects an alternate COA, such as establishing a support-by-fire position to support another platoon's maneuver against the newly discovered enemy force.
233. What happens once the PL selects a COA?
- a. Once the platoon leader selects a COA, keeping in mind the commander's intent, the company commander is informed, and he has the option of approving or disapproving it based upon its impact on the overall mission. To avoid delay, a unit SOP may provide automatic approval of certain actions.
234. What is movement to contact? When does movement to contact end?

- a. Movement to contact is an offensive task designed to develop the situation and establish or regain contact. It ends when enemy contact is made. When necessary, the Infantry platoon conducts this task regardless of which decisive action element is currently predominate: offense, defense, or stability... The platoon usually conducts movement to contact as part of an Infantry company or larger element. Based upon METT-TC, the platoon may conduct the operation independently. Search and attack, and cordon and search are techniques of movement to contact.
235. What characterizes movement to contact?
- a. Purposeful and aggressive movement, decentralized control, and hasty deployment of formations from the march to conduct offensive, defensive, or stability tasks characterize the movement to contact. The fundamentals of movement to contact—
  - b. Focus all efforts on finding the enemy.
  - c. Make initial contact with the smallest force possible, consistent with protecting the force.
  - d. Make initial contact with small, mobile, self-contained forces to avoid decisive engagement of the main body on ground chosen by the enemy. This allows the leader maximum flexibility to develop the situation.
  - e. Task-organizes the force and uses movement formations to deploy and attack rapidly in all directions.
  - f. Keep subordinate forces within supporting distances to facilitate a flexible response.
  - g. Maintains contact regardless of the course of action adopted once contact is gained.
236. How is movement to contact organized?
- a. Movement to contact is organized with a forward security force, either a covering force or an advance guard, and a main body as a minimum. A portion of the main body composes the leader's sustaining base. Based on METT-TC, the leader may increase the unit's security by resourcing an offensive covering force and an advance guard for each column, as well as flank and rear security. This is normally a screen or guard.
237. What is the purpose of the advance guard? What are some of the responsibilities of the advance guard?
- a. When the platoon serves as the advance guard, its purpose is to protect the main body from surprise attack, and develop the situation to protect the deployment of the main body when it is committed to action. These responsibilities include—
  - b. Providing security and early warning for the main body and facilitating its uninterrupted advance.
  - c. Conducting reconnaissance to locate enemy forces along the battalion's axis of advance.
  - d. Conducting actions on contact to retain freedom of maneuver for the battalion.
  - e. Calling for indirect fires to impede or harass the enemy.
  - f. Destroying enemy reconnaissance elements.

- g. Finding, fixing, defeating, destroying, or containing enemy security forces to retain freedom of maneuver for the battalion.
  - h. Bypassing and reporting obstacles, or act as the battalion support or breach force during breaching operations.
- 238. What determines the composition of the advance guard?
  - a. Composition of the advance guard depends upon METT-TC. In open terrain, it may move mounted; but in restricted, close, complex, or urban terrain, dismounted movement with vehicles in the overwatch may be a better choice. Engineers, tank, or Infantry company platoons may be attached to the advance guard. The mortar platoon or a mortar section may also support the advance guard. The advance guard is the battalion commander's main effort until the main body is committed; then the priority of fires shifts to the main body. In planning the movement to contact, each decision point should be based on the actions of the advance guard.
- 239. What provides a flank guard?
  - a. To provide flank guard, platoon-size elements from one of the companies in the battalion's main body provide a moving flank screen under company control. These elements remain at a distance from the main body, allowing the battalion time and space to maneuver to either flank. Flank security elements also operate far enough out to prevent the enemy from surprising the main body with direct fires. Indirect fires are planned on major flank approaches to enhance security.
- 240. What elements are used to provide rear security?
  - a. One platoon pulled from the main body may provide rear security, but combat forces are not normally available to perform this mission. The battalion provides its own rear security, assisted by rapid forward movement, which gives the enemy less opportunity to react or reposition forces to attack.
- 241. What is the purpose of the combat elements of the main body?
  - a. The combat elements of the main body are prepared to deploy and maneuver rapidly to a decisive point on the battlefield to destroy the enemy. The main body focuses its movement to the advance guard. The main body, remaining attuned to the advance guard's situation, provides responsive support when the advance guard is committed.
- 242. What are tasks the company or platoon can perform within the main body?
  - a. Find, fix, defeat, destroy, or contain the enemy's fixing force followed by the enemy assault force or site exploitation force, to retain freedom of maneuver for the remainder of the BCT.
  - b. Execute a course of action to defeat or destroy a designated enemy main body element.
- 243. What does the use of standard formations and battle drills allow the battalion commander to do?
  - a. The use of standard formations and battle drills allows the battalion commander, to shift combat power rapidly. Platoons and squads employ the appropriate movement techniques within the company formation. Company commanders, based on their knowledge of commander's intent and their own situational

awareness, anticipate the battalion commander's decisions for commitment of the main body and plan accordingly.

244. When does execution of these tasks occur?
- Execution of this task usually starts from a LD at the time specified in the operation order (OPORD). The leader controls the movement to contact by using phase lines, contact points, and checkpoints as required. The leader controls the depth of movement to contact by using a limit of advance (LOA) or a forward boundary. The leader could designate one or more objectives to limit the extent of movement to contact and orient the force. However, these are often terrain-oriented and used only to guide movement. Although movement to contact may result in taking a terrain objective, the primary focus should be on the enemy force. If the leader has enough information to locate significant enemy forces, then the leader should plan some other type of offensive action.
245. How do leaders control maneuver units?
- Leaders use positive control over maneuver units, coupled with battle drills and formation discipline. Normally platoons are not assigned their own area of operation during a movement to contact.
246. As the platoon leader plans for a movement to contact, some considerations apply to most, but not all, offensive tasks. What are some of these considerations?
- Assembly area (AA).
  - Reconnaissance.
  - Movement to the LD.
  - Maneuver.
  - Deployment.
  - Assault.
  - Consolidation and reorganization.
247. What is an assembly area?
- The AA is the area a unit occupies to prepare for an operation. To prepare the platoon for upcoming battles, the platoon leader plans, directs, and supervises mission preparations in the AA. This time allows the platoon and squads to conduct precombat checks and inspections, rehearsals, and sustainment activities. The platoon typically conducts these preparations within a company AA, as it rarely occupies its own AA.
248. Why should leaders aggressively seek information about the terrain and enemy forces?
- All leaders should aggressively seek information about the terrain and enemy. Because the enemy situation and available planning time may limit a unit's reconnaissance, the platoon usually conducts reconnaissance to answer the company commander's critical information requirements (CCIRs). The use of CCIRs cover friendly forces information requirements (FFIRs), priority intelligence requirements (PIRs), and essential elements of friendly information (EEFI) when dictated by the commander. An example is reconnoitering and timing routes from the AA to the LD. The platoon also may augment the efforts of the battalion reconnaissance platoon to answer the CCIRs. Other forms of reconnaissance

include maps and terrain software/databases. Updates from reconnaissance can occur at any time while the platoon and squad are planning for, preparing for, or executing the mission. As a result, the leader must be prepared to adjust his plans

249. How does the platoon and squad move from the assembly area to the line of departure?
- a. The platoon and squad typically move from the AA to the LD as part of the company movement plan. This plan may direct the platoon or squad to move to an attack position and await orders to cross the LD. If so, the platoon leader reconnoiters, times, and rehearses the route to the attack position. Section leaders and squad leader know where they are to locate within the assigned attack position, which is the last position an attacking element occupies or passes through before crossing the LD. The company commander may order all platoons to move within a company formation from the AA directly to the point of departure at the LD. The point of departure is the point where the unit crosses the LD and begins moving along a direction or axis of advance. If one point of departure is used, it is important the lead platoon and trail platoons reconnoiter, time, and rehearse the route to it. This allows the company commander to maintain synchronization. To maintain flexibility and to maintain synchronization, a point of departure along the LD may be designated for each platoon.
250. Who plans the approach to movement to contact?
- a. The platoon leader plans the approach to the movement to contact, ensuring synchronization, security, speed, and flexibility by selecting the platoon's routes, movement techniques, formations, and methods of movement. He must recognize this portion of the battle as a fight, not as a movement. He must be prepared to make contact with the enemy. He must plan accordingly to reinforce the commander's needs for synchronization, security, speed, and flexibility. During execution, the platoon leader may display disciplined initiative and alter his platoon's formation, technique, or speed to maintain synchronization with the other platoons and squads. This retains flexibility for the company commander.
251. How does the platoon avoid delay and confusion during movement to contact?
- a. As the platoon deploys and moves on its movement to contact it minimizes delay and confusion by analyzing what movement technique to use, traveling, traveling overwatch, or bounding overwatch. These movements allow the platoon to move in the best tactical posture before encountering the enemy. Movement should be as rapid as the terrain, unit mobility, and enemy situation permits. A common control measure is the probable line of deployment (PLD), which is used most often under conditions of limited visibility. The PLD is a phase line the leader designates as a location where he intends to deploy his unit into an assault formation before beginning the assault.
252. How may the platoon's objective be oriented during an offensive task?
- a. During an offensive task, the platoon's objective may be terrain-oriented or force-oriented. Terrain-oriented objectives may require the platoon to seize a designated area, and often requires fighting through enemy forces. If the

objective is force-oriented, an objective may be assigned for orientation while the platoon's efforts are focused on the enemy's actual location. Actions on the objective begin when the company or platoon begins placing direct and indirect fires on the objective. This may occur while the platoon is still moving toward the objective from the assault position or PLD.

253. What is consolidation? How is consolidation achieved? What actions are taken during reorganization?
- The platoon and squads consolidate and reorganize as required by the situation and mission. Consolidation is the process of organizing and strengthening a newly captured position so it can be defended. Reorganization is the action taken to shift internal resources within a degraded unit to increase its level of combat effectiveness. Reorganization actions can include cross-leveling ammunition, and ensuring essential weapons systems are manned and vital leadership positions are filled if the operators/crew became casualties. The platoon executes follow-on missions as directed by the company commander. A likely mission may be to continue the attack against the enemy within the area of operation. Regardless of the situation, the platoon and squads posture and prepare for continued offensive missions.
254. Purposeful and aggressive movement, decentralized control, and hasty deployment of combined arms formations from the march to attack or defend characterize the movement to contact. What are the fundamentals of a movement to contact?
- Focus all efforts on finding the enemy.
  - Make initial contact with the smallest force possible, consistent with protecting the force.
  - Make initial contact with small, mobile, self-contained forces to avoid decisive engagement of the main body on ground chosen by the enemy. This allows the leader maximum flexibility to develop the situation.
  - Task-organize the force and use movement formations to deploy and attack rapidly in all directions.
255. Why is movement to contact difficult to plan?
- Movement to contact is one of the most difficult missions to plan. The goal is preventing a meeting engagement with the enemy. (Refer to FM 3-90-1 for more information.) Planning movement to contact allows for flexibility and promoting subordinate initiative. Planning begins by developing the concept of the operation with a focus on ultimate control of the objective, and conducting a reverse planning sequence from the objective to the LD. This is accomplished by issuing a clear commander's intent, developing a simple concept of the operation and developing a series of decision point to execute likely maneuver options. Increased emphasis is placed on developing an aggressive and flexible reconnaissance effort linking to the commander's PIRs, which normally focuses on locating and gathering information about the enemy's strength, disposition, and activities.
256. What information does the leader collect while conducting security operations?

- a. The Infantry leader conducts information collection to determine the enemy's location and intent while conducting security operations to protect the main body. This includes the use of available manned and unmanned aircraft assets, allowing the main body to focus on planning and preparation. This includes rehearsals on the conduct of hasty operations, bypass maneuvers, and hasty defenses. The plan addresses actions anticipated by the leader based on available information and intelligence and the conduct of meeting engagements and other anticipated battle drills.
257. What are preparation actions? What are some examples of actions taken during preparation?
- a. Preparation actions are performed by the platoon to improve its ability to execute an operation. The platoon's success during missions depend as much on preparation as planning. Activities specific to preparation include:
  - b. Revising and refining the plan.
  - c. Rehearsals.
  - d. Troop movements.
  - e. Precombat checks and inspections.
  - f. Sustainment preparations.
  - g. Subordinate confirmation briefs and back briefs.
258. Why does the platoon rehearse operations?
- a. The platoon uses rehearsals to help understand their roles in upcoming operations, practice complicated tasks, and ensure equipment and weapons function properly. Following the last company rehearsal, the platoon should conduct a final rehearsal of its own to incorporate adjustments to the company scheme of maneuver.
259. The platoon rehearsal should cover what subjects?
- a. Movement from current positions.
  - b. Routes (to include passage points, contact points, checkpoints, and CCP).
260. What is a precombat inspection?
- a. A precombat inspection (PCI) is a formal, time-intensive inspection that is done before the mission. Its goal is to make sure Soldiers and vehicles are fully prepared to execute the upcoming mission. In general, PCIs enable the platoon leader to check the platoon's operational readiness.
261. What is a precombat check?
- a. A precombat check (PCC) is less formal and more mission-specific than a PCI. Precombat checks emphasize areas, missions, or tasks required for upcoming missions. The squad and section leaders perform the PCC. It is essential that the entire platoon chain of command know how to conduct PCCs and PCIs. The platoon leader or platoon sergeant should observe each squad and mounted crew during preparation for combat. They should conduct the inspection once the mounted section and squad leaders report that they are prepared.
262. What is the focus of reconnaissance elements?
- a. All reconnaissance assets focus on determining the enemy's dispositions and providing the Infantry leader with current intelligence and relevant combat

information. This ensures friendly forces are committed under optimal conditions. The leader uses all available sources of combat information to find the enemy's location and dispositions. The platoon and squad leaders ensure that the platoon makes enemy contact with the smallest friendly element possible in order to preserve combat power and conceal the size and capabilities of the platoon.

263. What actions does the main body take once contact is made?
- Once contact is made, the main body brings overwhelming fires onto the enemy to prevent them from conducting a spoiling attack or organizing a coherent defense. The security force maneuvers as quickly as possible to find gaps in the enemy's defenses. The leader gathers as much information as possible about the enemy's dispositions, strengths, capabilities, and intentions. As more intelligence becomes available, the main body attacks to destroy or disrupt enemy command and control centers, fire control nodes, and communication nets.
264. How do infantry leaders initiate maneuvers during contact?
- Infantry leaders initiate maneuvers at a tempo the enemy cannot match, since success in a meeting engagement depends upon actions on contact. The security force does not allow the enemy to maneuver against the main body. The organization, size, and combat power of the security force are major factors determining the size of the enemy force it can defeat without deploying the main body. The techniques the leader employs to fix the enemy when both forces are moving are different from those employed when the enemy force is stationary during the meeting engagement. In both situations, when the security force cannot overrun the enemy by conducting a hasty frontal attack, a portion of the main body is deployed. When this occurs, the unit is no longer conducting movement to contact but an attack.
265. What actions are taken if the security force cannot overrun the enemy using a frontal attack?
- If the security force cannot overrun the enemy with a frontal attack, the leader quickly maneuvers the main body to conduct a penetration or envelopment that overwhelms the enemy force before it can react or reinforce. The leader attempts to defeat the enemy in detail while still maintaining the momentum of advance. After an attack, the main body leader resumes the movement to contact. If the enemy is not defeated, there are three main options: bypass, transition to a more deliberate operation, or conduct some type of defense.
266. What actions does the main body take if the leader initiates a frontal attack?
- Main body elements deploy rapidly to the vicinity of contact if the leader initiates a frontal attack. Maneuvering unit leaders coordinate forward passage through friendly forces in contact as required. The intent is to deliver the assault before the enemy can deploy or reinforce his engaged forces. The leader may order an attack from a march column for one of the main body's columns, while the rest of the main body deploys. The leader also can wait to attack until bringing the bulk of the main body forward. This avoids piecemeal commitment except when rapidity of action is essential, combat superiority at the vital point is present, can be maintained throughout the attack, or when compartmentalized terrain forces a

COA. When trying to conduct envelopment, the leader focuses on attacking the enemy's flanks and rear before preparing to counter these actions. The leader uses the security force to fix the enemy while the main body maneuvers to look for an assailable flank. The main body also can be used to fix the enemy while the security force finds the assailable flank.

267. What occurs when the enemy is defeated during movement to contact?
- If the enemy is defeated, the unit transitions back into movement to contact and continue to advance. The movement to contact terminates when the unit reaches the final objective or LOA, or transitions to a more deliberate operation, defense, or retrograde.
268. What is assesment?
- Assessment is the continuous monitoring and evaluation of a current situation, and the progress of an operation. It involves deliberately comparing forecasted outcomes to actual events in order to determine the overall effectiveness of force employment. Assessment allows the leader to maintain accurate situational understanding, and amend his visualization, which helps the commander make timely and accurate decisions. Assessment of effects is determining how friendly actions have succeeded against the enemy. Effects typically are assessed by measure of performance and measure of effectiveness. Every combat situation is unique. Leaders do their best to accurately assess the situation and make good decisions about employing their units. The environment of combat, application of military principles, and the desired end state of Army operations culminate with the close fight of Infantry platoons and squads. Leaders should understand the larger military purpose and how their actions and decisions might affect the outcome of the larger operation.
269. What is risk assessment?
- Risk assessment is the process leaders use to assess and to control risk. There are two types of risk associated with combat actions: tactical hazards resulting from the presence of the enemy and accidental hazards resulting from the conduct of operations. All combat incurs both risks. The objective is to minimize them to acceptable levels.
270. How does the leader identifies risk to the unit and mission?
- Defining the enemy action.
  - Identifying friendly combat power shortfall.
  - Identifying available combat multipliers, if any, to mitigate risk.
  - Considering the risks are acceptable or unacceptable
271. Why do leaders use METT-TC?
- Infantry platoon leaders and squad leaders use METT-TC to understand and describe the operational environment. These six widely known and used factors are categories for cataloging and analyzing information. Leaders and Soldiers constantly observe and assess their environment.
272. What does the PL use to conduct terrain analysis of the AO?
- The leader assesses the terrain in his proposed area of operation. In addition to the standard Army map, the leader may have aerial photographs and terrain

analysis overlays from the parent unit, or he may talk with someone familiar with the area.

273. What is search and attack?
- Search and attack is a technique for conducting movement to contact sharing many of the same characteristics of an area security mission. (Refer to ADRP 3-90 for more information.) Conducted primarily by Infantry forces and often supported by armored forces, the leader employs this form of movement to contact when the enemy is operating as a small, dispersed element, or when the task is to deny the enemy the ability to move within a given area. Maneuver battalions and companies normally conduct search and attack.
274. How do commanders task-organize subordinate units?
- Commanders task-organize subordinate units (platoons and squads) into reconnaissance, fixing, and finishing forces, each with a specific purpose and task. The size of the reconnaissance force is based upon the available combat information and intelligence about the size of enemy forces in the area of operation. The nature of the operational environment sometimes requires an Infantry platoon to conduct a search and attack while operating in a noncontiguous area of operation. The Infantry leader primarily employs ground forces, often supported by armored or wheeled forces if available, when the enemy is operating with small, dispersed elements or when the task is to deny the enemy the ability to move within a given area.
275. What type of reconnaissance do recon forces conduct on areas of interest?
- The reconnaissance force conducts a zone reconnaissance to reconnoiter identified named areas of interest. The reconnaissance force is small enough to achieve stealth, but large enough to provide adequate self-defense until the fixing and finishing forces arrive.
276. What is the purpose of the fixing force?
- The fixing force develops the situation and executes one of two options based upon the commander's guidance and METT-TC. The first option is to block identified routes the detected enemy can use to escape or reinforce. The fixing force maintains contact with the enemy and positions its forces to isolate and fix him before the finishing force attacks. The second option is to conduct an attack to fix the enemy in his current positions until the finishing force arrives. The fixing force can be a combination of mounted and dismounted forces with enough combat power to isolate the enemy after the reconnaissance force finds him. The fixing force attacks if action meets the commander's intent and can generate sufficient combat power against the enemy.
277. What is the purpose of the finishing force?
- The finishing force is used to destroy the detected and fixed enemy during a search and attack. This is accomplished by conducting hasty or deliberate operations, maneuvering to block enemy escape routes while another unit conducts the attack, or employing indirect fire or CAS. The leader may have his finishing force establish an area ambush and use his reconnaissance and fixing forces to drive the enemy into the ambushes. The finishing force must have

enough combat power to destroy those enemy forces expected in the platoon area of operation.

278. Why do leaders establish control measures? What are some examples of control measures?

- a. The leader establishes control measures allowing for decentralized actions and small-unit initiative to the greatest extent possible. The minimum control measures for a search and attack are an area of operation, TRP, objectives, checkpoints, and contact points. The use of TRP facilitates responsive fire support once the reconnaissance force makes contact with the enemy. The leader uses objectives and checkpoints to guide the movement of subordinate elements. Coordination points indicate a specific location for coordinating fires and movement between adjacent units. The leader uses other control measures such as phase lines, as necessary.

279. How does the leader conduct a search and attack applying all of the warfighting functions?

- a. Destroy the enemy and render enemy units in the areas of operations combat ineffective.
- b. Deny the area and prevent the enemy from operating unhindered in a given area.
- c. Protect the force and prevent the enemy from massing to disrupt or destroy friendly military or civilian operations, equipment, property, and essential facilities.
- d. Collect information and gain information about the enemy and terrain to confirm the enemy COA predicted because of the intelligence preparation of the battlefield (IPB) process.

280. What is the purpose of the search and attack plan?

- a. The search and attack plan places the finishing force where it can best maneuver to destroy enemy forces or essential facilities located by reconnaissance assets. Typically, the finishing force occupies a central location in the area of operation. However, METT-TC may allow the leader to position the finishing force outside the search and attack area. The leader weights the finishing force by using priority of fires and assigning priorities of support to available combat multipliers such as engineer elements and helicopter lift support. The leader establishes control measures as necessary to consolidate units and concentrate the combat power of the force before the attack. Once the reconnaissance force locates the enemy, the fixing and finishing forces can fix and destroy it. The leader also develops a contingency plan in the event the reconnaissance force is compromised.

281. What preparations are made for conducting a search and attack?

- a. The preparations for conducting a search and attack are the same as those for an attack. See the appropriate paragraph with the attack section in this chapter for additional information.

282. What are subordinate elements in the AO tasked with?

- a. Each subordinate element operating in its own area of operation is tasked with destroying the enemy to the best of its capability. The leader should have established control measures and communications means between all closing

elements to prevent fratricide and friendly fire. The reconnaissance force conducts a zone reconnaissance to reconnoiter identified named areas of interest.

283. Why does the leader use finishing forces?
- The leader uses the finishing force to destroy the detected and fixed enemy during a search and attack by conducting hasty or deliberate operations, maneuvering to block enemy escape routes while another unit conducts the attack, or employing indirect fire or CAS to destroy the enemy.
284. What happens if the conditions are not right to use the finishing force to attack the enemy?
- If conditions are not right to use the finishing force/main body to attack the detected enemy, the reconnaissance or fixing forces can continue to conduct reconnaissance and surveillance activities to develop the situation. Whenever this occurs, the force maintaining surveillance is careful to avoid detection and possible enemy ambushes.
285. What are some options for the deployment of finishing forces?
- The finishing force may move behind the reconnaissance and fixing forces, or locate at a pickup zone and air assault into a landing zone near the enemy once he is located. The finishing force/main body must be responsive enough to engage the enemy before he can break contact with the reconnaissance force or the fixing force. The battalion intelligence staff provides the leader with a time estimate for the enemy to displace from his detected locations. The leader provides additional mobility assets so the finishing force/main body can respond within the timeframe. The leader may have the finishing force/main body establish an area ambush and use the reconnaissance and fixing forces to drive the enemy into the ambushes.
286. What is the most common tactical task conducted during stability operations?
- The most common tactical task during stability is a cordon and search. This involves two potentially inflammatory processes: limiting freedom of movement and searching dwellings. These two actions have a clear potential for negative consequences. Therefore, organizing cordon and search elements requires extensive mission tailoring and Infantry leaders always are prepared for a civil disturbance.
287. Why are searches important?
- Searches are an important aspect of populace and resource control. The need to conduct a search operation or to employ search procedures is a continuous requirement. A search conducted by civil police and Soldiers can orient on people, materiel, buildings, or terrain. Searches may be enabled by biometric or forensic exploitation.
288. What does cordon and search involve?
- Cordon and search involves isolating the target area and searching suspected buildings to capture or destroy possible insurgents and contraband. It involves the emplacement of a cordon, or security perimeter, to prevent traffic in and out of the area. The cordon permits the search element to operate unimpeded within

the secured area. The purpose of cordon and search is to obtain weapon caches, materiel or information, persons of interest, or a specific high-value target.

289. How many cordon and search methods are used? What is the primary consideration for cordon and search?
- There are two cordon and search methods and the method selected to accomplish the mission depends on a number of factors. The primary consideration is to capture the designated personnel, site, or equipment but additional factors such as the enemy threat, local populace support, and host-nation security force capabilities are taken into account during planning this task.
290. What is the cordon and kick method?
- The cordon and kick method is used to maintain speed, surprise, and timeliness in entry to the target within the objective. In this instance, considerations of population perceptions and integration of host-nation security force are less important than accomplishing the task of capturing the target individual, site, or equipment.
291. What is the purpose of conducting cordon and knock/ask?
- If the mission is focused on increasing the legitimacy of the host-nation government and security forces, it may be necessary to sacrifice a degree of surprise and timeliness to achieve its goal by conducting a cordon and knock/ask. In this instance, the unit focuses on maintaining a presence and control of an area by incorporating local authorities into the mission.
292. What does cordon and search require?
- A cordon and search requires a command, security, search and support element to perform the major tasks. The security element sets up the cordon, which usually consists of an outer cordon "ring" and an inner cordon "ring." The search element clears and searches suspected buildings to capture or destroy insurgents and contraband. This is the main effort. The support element may be the reserve, provide support by fire, and be prepared to perform the other cordon and search tasks.
293. What is the purpose of the command element during cordon and search?
- The command element is the headquarters executing mission command for cordon and search. There may be several combat multipliers attached. Frequently, the leader is given a variety of assets to assist him in accomplishing his mission. Ideally, the leader task-organizes his assets in order to maintain control of three to five elements. The location of the command element provides the ability to control the subordinate teams and supporting assets of cordon and search mission. The ability to observe the search element generally causes the command element to collocate with the inner cordon. Visibility and communication capability are deciding factors in identifying the best location for the command element during the actual mission.
294. What may the composition of the command element entail?
- The composition of the command element may be as small as the leader and an RTO, or may include security vehicles, interpreters, host-nation officials and local

authorities. The command element remains mobile and able to move to all points within the cordon and search operation, ensuring coordination of all elements and supporting assets. When host-nation forces or authorities are involved in the mission, the command element coordinates with them and integrates them as identified during the planning phase of the operation. Operation and communication security are guiding principles when conducting integrated operations with host-nation forces.

295. What is the point of coordination for supporting assets and status reporting during stability operations?
- The command element is the single point of coordination for supporting assets and status reporting to higher headquarters. As a critical component of cordon and search operations, the command element designates a backup team in the event it becomes combat ineffective. It ensures all actions are documented as required, and rules of evidence are followed where necessary. In the event a person is detained, the command element monitors the documentation, security, and transport of detainees. It also ensures damage caused during the cordon and search is documented to identify legitimate future claims by the occupants of the target.
296. What is the primary task of the security element?
- The primary task of the security element is total isolation of the target area, either physically or by fire. The security element limits enemy or civilian influence in the objective area and prevents targets from escaping the cordon. It may have to use multiple avenues of approach and operate decentralized to accomplish its mission. It also may have to establish multiple blocking positions and observation posts and conduct patrols in order to isolate the target area.
297. What may the security element include?
- Detainee teams.
  - Crowd control teams.
  - Observation posts.
  - Traffic control post or blocking positions.
  - Host-nation security force (military or police).
  - Integrated aviation assets.
  - Dismounted squads or platoons.
  - Female search teams.
298. Why is the outer cordon important of cordon and search missions?
- The execution of outer cordon missions is an integral part of the security element in all cordon and search missions. The outer cordon isolates the objective area and prevents enemy or civilian influence. This requires detailed planning, coordination, integration, and synchronization to achieve the lethal and nonlethal combined arms effects required for mission execution.
299. What are some considerations for outer cordon?
- Vehicles for traffic control post and blocking positions.
  - Operational environment fire planning and coordination.
  - Overwatch positions.

- d. Aviation assets to observe the target area and inform the outer cordon if vehicles or persons leave the target area. Constant communication between the aviation element and outer cordon better facilitates the isolation of the target area.
  - e. An initial detainee collection point for receipt and temporary holding of detainees.
  - f. An initial materiel collection point for consolidation of captured materiel.
  - g. Each outer cordon element traffic control point blocking position has a designated leader, and a clear task and purpose. Weapon systems to consider for outer cordon positions are wheeled or tracked vehicles with weapons systems, crew-served weapons, Javelin with the command launch unit (CLU), and snipers or designated marksman.
300. What is the role of the outer cordon element leader?
- a. The leader of the outer cordon element develops and maintains situational awareness of his area of responsibility and the areas of inner cordon and search elements. This enables him to anticipate threat activity, control direct and indirect fires, and facilitate the achievement of the outer cordon's task and purpose. Aviation assets, communications systems, and reporting procedures are implemented to facilitate situational awareness for the entire element.
301. What is the purpose of the search element?
- a. The search element's mission is to clear, and search the target in order to capture, kill, or destroy the targeted individuals and materiel. The search element initiates action once the outer and inner cordons are in place. The element accomplishes its mission by gaining a foothold on or in the target to clear all enemy and noncombatant personnel, and by conducting a systematic search of the target. These areas may be searched selectively (only specific rooms/buildings/blocks) or systematically (everything within a given area). Due to the split-second decisions made, it is imperative this element not only understands but also complies with the ROE.
302. What are the three primary tasks of the search element?
- a. To accomplish its mission, the search element has three primary tasks: securing, clearing, and searching the target. The search element may be task-organized into search, security, and support teams in order to facilitate mission accomplishment. All these teams understand and are prepared to assume the role of other teams in the search element.
303. What is the purpose of the support element?
- a. The support element reinforces, and is capable of accomplishing, the task and purpose of the unit's main effort. In addition, the leader may direct the support element to accomplish priority-planning tasks. This means the support element leader is intimately familiar with all aspects of cordon and search missions from planning through its completion. The leader identifies the tasks the support element may be required to execute. These tasks are prioritized and given to the support element leader to plan and rehearse these actions according to the commander's plan.
304. What are probable tasks assigned to the support element during a cordon and search operation?

- a. Reinforce outer/inner cordon.
  - b. Clear buildings.
  - c. Search buildings.
  - d. Biometric and forensic enabled collections. (Refer to ATP 2-22.85 for more information.)
  - e. Document and media exploitation. (Refer to ATP 2-91.8 for more information.)
  - f. Secure, safeguard, and escort civilians or detainees.
  - g. Secure and safeguard captured materiel or equipment.
305. What is commitment criteria?
- a. Commitment criteria is a guide to assist the leader on when to commit the support element, but is not intended to be a trigger for employment.
  - b. Possible commitment criteria can be—
  - c. A hostile crowd forming around the inner cordon.
  - d. Loss of main effort.
  - e. Numerous rooms in the building being searched.
  - f. More than a specified number of detainees.
  - g. The enemy engages the inner cordon.
306. The use of standard tactical control measures is essential to mission command over forces approaching and conducting cordon and search operations. What are examples of this?
- a. Assembly areas. Due to the relative safety, size, and location, base camp or combat outposts are the most convenient areas for staging a cordon and search operation. However, leaders assume all friendly positions are under constant observation. If possible, position AA in remote or separate areas, or use multiple AA in order to minimize all enemy surveillance efforts.
  - b. Checkpoints. Checkpoints leading to the target and in the objective area are essential for ensuring all units arrive at the target in the proper order and on time.
  - c. Rally points. Rally points to and from the objective area allow for cordon and search elements to reorganize if units become engaged, lost, have vehicle trouble, or lose communications during ingress and egress from the target.
  - d. Phase lines. Phase lines are helpful in controlling cordon and search elements approaching the target from different directions or at different times.
  - e. Restrictive fire lines (RFLs). RFL prohibit fires and their effects between converging friendly forces.
307. What are vital tips for cordon and search success?
- a. Positioning vital leaders so they can see and control all subordinate elements.
  - b. Positioning essential assets such as crew-served weapons and interpreters at the critical locations.
  - c. Being prepared to move leadership and support assets from one location to another during mission execution or as necessary.
  - d. Positioning vehicles and personnel to be searched so the security element's sectors of fire face to the outside of the friendly element and away from noncombatants when executing searches.

- e. Keeping the bulk of forces within the perimeter so if the situation escalates they are essentially in a battle or support-by-fire position.
  - f. Ensuring all personnel understand direct fire and contingency plans. For example:
  - g. What actions to take in the event a vehicle penetrates a traffic control point from outside the established perimeter?
  - h. Who engages and with what weapons systems?
  - i. Engage crew-served weapons or should they use only M4?
  - j. When to cease fire, and what signal to use for cease-fire?
308. What factors to leaders consider when planning cordon and search missions?
- a. Leaders consider numerous factors when planning and preparing for a cordon and search mission. Leaders apply the same steps used in TLP, applying the warfighting functions. When the objective of cordon and search operation is a high payoff target, planning time can be extremely limited between first receiving the mission and executing it. Given the complexity of the mission and the assets task-organized to support it, planning time may require immediate collaboration with vital leaders of all the elements, and accelerated TLP. The "civilian" part of METT-TC should be considered specifically, and interpreters added as required.
309. Why is time important for cordon and search operations?
- a. The cordon and search operation is uniquely vulnerable to time. Planning time may be short due to the urgency of conducting the operation to exploit a fleeting opportunity. While time in the objective area may be considerably longer than planned, if the search yields significant items or results in intelligence which results in follow-on searches in the immediate area. Additional time issues are those associated with the lead times necessary to request assets, such as aviation, and acquire intelligence from various agencies.
310. What are legal considerations for search?
- a. A search can orient on people, materiel, buildings, or terrain, and involve civil police and Soldiers. Authority for search is carefully reviewed. Military personnel perform searches only in areas of military jurisdiction or where they are otherwise lawful.
311. What are soldiers to record during searches?
- a. Soldiers record and maintain the chain of custody for the seizure of contraband, evidence, captured enemy or detainee documents, weapons, and materiel, supplies, or other items for the seizure to be of legal value. Search teams have detailed instructions for handling controlled items. Lists of prohibited or controlled-distribution items should be widely disseminated and on-hand during a search. The unit contacts military or civil police, who work with the populace and resource control program before the search begins. Units also consider the effect of early warning on their mission, and have required interpreters provided.
312. Where do units conduct searches?
- a. A unit conducts the search at a methodical pace to help ensure success, but rapidly enough to prevent the enemy from reacting. Soldiers use only the force necessary to eliminate all encountered resistance. There should be plans for

securing the search area (establishing a cordon) and handling detained personnel.

313. What do cordon and search missions involve?
  - a. Cordon and search missions involve isolating the target area and searching suspected buildings to capture or destroy possible insurgents and contraband. A cordon is critical to the success of the search effort. It is designed to prevent persons of interest from escaping and insurgents from reinforcing while protecting the forces conducting the operation. Based on METT-TC, the Infantry platoon can establish an inner cordon and an outer cordon. A mounted platoon is best suited to provide the outer cordon given its mobility and armaments. Both cordon elements must focus inward and outward for security purposes.
314. What are the outer cordon's composition and capabilities based on?
  - a. The outer cordon's composition and capabilities should be based on METT-TC, and its mission is providing containment to prevent a high-value target from escaping the objective area. The outer cordon may have to accomplish this task by being more terrainoriented, focusing on the most probable avenues of approach into and out of the objective area. It also can be tasked to obstruct specific locations to prevent escape from inside and block interference from the outside. A mounted platoon is best suited to provide the outer cordon due to its mobility and armaments.
315. What is the mission of the inner cordon?
  - a. The mission of the inner cordon is containing the immediate vicinity of the target to prevent escape and providing security to the search element. If the cordon and search is opposed by a hostile force, the inner cordon provides support by fire and direct fires to suppress the enemy force and allow maneuver of the search element to the objective.
316. How do urban environments impact direct fire control measures during searches?
  - a. Due to the congested nature of urban environments, direct fire control measures can be complicated. One proven TTP is for units to number buildings, letter building corners, and number floors. Then a request for immediate direct fire suppression can be specific and the risk of collateral damage, fratricide, and friendly fire is reduced. The fire command can be, "Immediate suppression, two personnel with weapons, building 23, side A-B, second floor, second window, fire when ready." Due to the condensed and compressed nature of the physical area, fires are precise and accurate, as opposed to high volume.
317. What METT-TC factor must be taken into consideration during cordon and search?
  - a. All operations across the spectrum of warfare must take into account civilian considerations in terms of their presence in the battlefield/operational environment, infrastructure damage, injury to civilians, and so forth. Considering the likely operating environments in which a cordon and search would be conducted, civilian considerations represent a significant planning aspect for the commander
318. What is an attack?

- a. An attack is a primary offensive task that destroys or defeats enemy forces, seizes and secures terrain, or both. When the Infantry leader decides to attack, or the opportunity to attack occurs during combat operations, the execution of an attack masses the effects of overwhelming combat power against selected portions of the enemy force with a tempo and intensity that cannot be matched by the enemy. The resulting combat should not be a contest between near equals. Attackers are determined to seek decisions on the ground of their choosing through the deliberate synchronization and employment of the combined arms team.
319. What is the difference between a deliberate operations and a hasty operation?
- a. The primary difference between a deliberate operation and hasty operation is the extent of planning and preparation the attacking force conducts. At one end of the continuum, an Infantry unit launches hasty operation as a continuation of an engagement that exploits a combat power advantage and preempts enemy actions. At the other end of the continuum, an Infantry unit conducts a deliberate operation from a reserve position or AA with detailed knowledge of the enemy, a task organization designed specifically for attacking, and a fully rehearsed plan. Most attacks fall somewhere between the two extremes.
320. When is a deliberate operation conducted?
- a. A deliberate operation normally is conducted when enemy positions are too strong to be overcome by a hasty operation. It is a fully synchronized operation employing every available asset against the enemy defense, and are characterized by a high volume of planned fires, use of major supporting attacks, forward positioning of the resources needed to maintain momentum, and operations throughout the depth of enemy positions. Deliberate operations follow a preparatory period that includes planning, reconnaissance, coordination, positioning of follow-on forces and reserves, preparation of troops and equipment, rehearsals, and operational refinement.
321. What is a hasty operations conducted?
- a. A hasty operation is conducted during movement to contact, as part of a defense, or when the enemy is in a vulnerable position and can be defeated quickly with available resources. This type of operation may cause the attacking force to lose a degree of synchronization. To minimize this risk, the leader maximizes use of standard formations and well-rehearsed, thoroughly understood battle drills and SOPs. A hasty operation often is the preferred option during continuous operations, enabling the leader to maintain momentum while denying the enemy time for defense preparations.
322. What occurs once the PL determines the scheme of maneuver?
- a. Once the scheme of maneuver is determined, the Infantry leader task-organizes the force to ensure he has enough combat power to accomplish the mission. The leader normally organizes a security force, main body, and a reserve, which are all supported by some type of sustainment organization. The leader should complete all changes in task organization on time to allow units to conduct rehearsals with their attached and supporting elements.

323. When does the leader dedicate dedicated security forces?
- Under normal circumstances, the leader resources dedicated security forces during an attack only if the attack uncovers one or more flanks, or the rear of the attacking force as it advances. In this case, the leader designates a flank or rear security force and assigns it a guard or screen mission, depending on METT-TC. Normally an attacking unit does not need extensive forward security forces as most attacks are launched from positions in contact with the enemy, which reduces the usefulness of a separate forward security force. The exception occurs when the attacking unit is transitioning from defense to attack and had previously established a security area as part of the defense.
324. How does the infantry leader organize the main body?
- The Infantry leader organizes the main body into combined arms formations to conduct the decisive operation and necessary shaping operations. The leader aims the decisive operation toward the immediate and decisive destruction of the enemy force and will to resist, seizure of a terrain objective, or the defeat of the enemy's plan. The maneuver scheme identifies the focus of the main effort. All forces' available resources operate in concert to assure the success of the main effort. The subordinate unit or units designated to conduct the decisive operation can change during the course of attack. The leader designates an assault, breach, and support force, if he expects to conduct a breach operation during the attack. If it is impractical to initially determine when or where the echelon's main effort will be, such as during a hasty operation, the leader retains flexibility by arranging forces in-depth, holding out strong reserves, and maintaining centralized control of long-range indirect fire support systems. As soon as the tactical situation develops enough to allow the leader to designate the decisive point, the leader focuses available resources to support the main efforts achievement of its objective.
325. When does the leader use reserve forces?
- The leader uses the reserve to exploit success, defeat enemy counterattacks, or restore momentum to a stalled attack. For a company mission this usually is a squad size force. For a battalion mission it is usually a platoon-size element. Once committed, the reserve's actions normally become or reinforce the echelon's decisive operation. The Infantry leader makes every effort to reconstitute another reserve from units made available by the revised situation. Often the leader's most difficult and important decision concerns the time, place, and circumstances for committing the reserve. The reserve is not a committed force and is not used as a follow-and-support force, or a follow-and-assumes force.
326. What determines the combat power allocated to reserve forces?
- In the attack, the combat power allocated to the reserve depends primarily on the level of uncertainty about the enemy, especially the strength of all expected enemy counterattacks. The leader only needs to resource a small reserve to respond to unanticipated enemy reactions when detailed information about the enemy exists. When the situation is relatively clear and enemy capabilities are

limited, the reserve may consist of a small fraction of the command. When the situation is vague, the reserve initially may contain the majority of the Infantry leader's combat power.

327. How are sustainment operations resourced?
  - a. Leaders' resource sustaining operations to support the attacking force. A maneuver battalion commander organizes the supporting sustainment and other logistics assets into combat and field trains. In an Infantry Brigade Combat Team (IBCT), a forward support company (FSC) is part of the Infantry battalion. It is responsible for sustainment of the Infantry battalion. The IBCT sustainment organization is different in structure from the ABCT and SBCT. Higher echelon commanders appoint someone to control sustaining operations within their echelon support areas.
328. What are some control measures used during offensive tasks?
  - a. Units conducting offensive tasks operate within an assigned area of operation. Regardless of whether the attack takes place in a contiguous or noncontiguous environment, the commander of this area of operation normally designates control measures such as the—
  - b. Areas of operation for subordinate units of battalion size or larger.
  - c. Phase line as the line of departure, which also may be the line of contact (LC).
  - d. Time to initiate the operation.
  - e. Objective.
329. How are infantry leaders to use control measures?
  - a. Infantry leaders use all other control measures necessary to control the attack. Short of the LD or LC, the leader may designate AA and attack positions where the unit prepares for the offense or waits for the establishment of required conditions to initiate the attack. Beyond the LD or LC, leaders may designate checkpoints, phase lines, PLD, assault positions, and direct and indirect fire support coordination measures. Between the PLD and objective, a final coordination line, assault positions, support by fire and attack by fire positions, and time of assault to better control the final stage of attack can be used. Beyond the objective, the Infantry leader can impose a LOA if an exploitation or pursuit is not conducted.
330. What governs the march position when moving from the assembly area to the line of departure?
  - a. The tactical situation and order in which the leader wants his subordinate units to arrive at their attack positions govern the march formation.
331. What occurs when units move from the line of departure to the probable line of deployment?
  - a. Units move rapidly through their attack positions and across the LD, which should be controlled by friendly forces. The leader considers METT-TC when choosing the combat formation which best balances firepower, tempo, security, and control.
332. What actions are taken at the probable line of deployment?

- a. The attacking unit splits into one or more assault and support forces as it reaches the PLD, if not already accomplished. All forces supporting the assault should be set in their support-by-fire position before the assault force crosses the LD. The assault force maneuvers against or around the enemy to take advantage of support force's efforts to suppress targeted enemy positions.
- 333. What breach is preferable to use by the platoon?
  - a. As necessary, the platoon conducts a combined arms breach. The preferred method of fighting through a defended obstacle is to employ an in-stride breach. However, the leader must be prepared to conduct a deliberate breach.
- 334. What occurs when units are assaulting the objective?
  - a. The leader employs all means of direct and indirect fire support to destroy and to suppress the enemy, and to sustain the momentum of attack. Attacking units move as quickly as possible onto and through the objective. Depending on the size and preparation of enemy forces, it may be necessary to isolate and destroy portions of the enemy in sequence.
- 335. What occurs immediately following an assault?
  - a. Immediately after an assault, the attacking unit seeks to exploit its success. It may be necessary, though, to consolidate its gains. Consolidation can vary from repositioning force and security elements on the objective, to reorganization the attacking force, to the organization and detailed improvement of the position for defensive missions.
- 336. What occurs after seizing an objective?
  - a. After seizing the objective, the unit typically transitions to some other type of task. This operation could be the site exploitation or pursuit, or perhaps a defense. Transitions (through branches and sequels) are addressed and planned prior to undertaking the offensive task. Transitions are discussed in section VI of this chapter.
- 337. What is the focus during an attack?
  - a. In an attack, friendly forces seek to place the enemy in a position where the enemy can be defeated or destroyed easily. The leader seeks to keep the enemy off-balance while continually reducing the enemy's options. In an attack, the leader focuses movement and maneuver effects, supported by the other warfighting functions, on those enemy forces seeking to prevent the unit from accomplishing its mission and seizing its objective. Planning helps the leader synchronize the effects of combat power through TLP.
- 338. What does the leader state during the mission planning process?
  - a. The leader states the desired effect of fires on the enemy weapon systems, such as suppression or destruction, as part of his planning process. The leader assigns subordinate units their missions and imposes those control measures necessary to synchronize and maintain control over the operation. Using the enemy situational and weapons templates previously developed, the leader determines the probable LC and enemy trigger lines. As the leader arrays subordinate elements to shape the battlefield, friendly weapon systems are matched against the enemy has to determine the PLD. Once the leader

determines the PLD, the leader establishes how long it takes subordinates to move from the LD to the PLD and all support-by-fire positions the attack requires. The leader establishes when and where the force must maneuver into enemy direct-fire range. In planning Infantry leaders focus on the routes, formations, and navigational aids they will use to traverse the ground from the LD or PD to the objective. Some terrain locations may require the attacking unit to change its combat formation, direction of movement, or movement technique when it reaches those locations. The unit can post guides at these critical locations to ensure maintaining control over the movement.

339. What must every attack plan contain?
  - a. In addition to accomplishing the mission, every attack plan must contain provisions for exploiting success or all advantages may arise during the operation. The leader exploits success by aggressively executing the plan, promoting subordinate leader initiative, and using units that can rapidly execute battle drills.
340. What does the leader try to do in the plan of attack?
  - a. In the plan of attack, the Infantry leader seeks to surprise the enemy by choosing an unexpected direction, time, type, or strength for attacking and by exploiting the success of military deception operations. Surprise delays enemy reactions, overloads and confuses enemy command and control, induces psychological shock in the enemy, and reduces the coherence of the enemy's defensive operations. The leader achieves tactical surprise by attacking in bad weather and over seemingly impassible terrain, conducting feints and demonstrations, maintaining a high tempo, destroying enemy forces, and employing sound OPSEC. The leader may plan different attack times for decisive and shaping operations to mislead the enemy and allow the shifting of supporting fires to successive attacking echelons. However, simultaneous attacks provide a means to maximize the effects of mass in the initial assault. They also prevent the enemy from concentrating defensive fires against successive attacks.
341. How does the PL oversee fires?
  - a. The platoon leader often will find himself as the observer (and executor) of company and battalion level fires. Understanding the concept of echelon fires is critical for indirect fire plan to be synchronized with the maneuver plan. The purpose of echeloning fires is to maintain constant fires on a target while using the optimum delivery system up to the point of its risk-estimate distance in combat operations or minimum safe distance (MSD) in training. Echeloning fires provides protection for friendly forces as they move to and assault an objective, allowing them to close with minimal casualties. It prevents the enemy from observing and engaging the assault by forcing the enemy to take cover, allowing the friendly force to continue the advance unimpeded.
342. How do leaders most effectively employ the capabilities and tactics of their units?
  - a. To employ the proper capabilities and tactics, leader and subordinate leaders must have detailed knowledge of the enemy's organization, equipment, and tactics. They must understand enemy's strengths and weaknesses. The platoon

leader may need to request information through the ColST, from the battalion staff to answer platoon information requirements.

343. What happens if the leaders do not have good intelligence to use for mission planning?
- Generally, if the leader does not have good intelligence and does not know where the overwhelming majority of the enemy's units and systems are located, the leader cannot conduct a deliberate operation. The attacking unit must conduct a movement to contact, conduct a hasty operation, or collect more combat information.
344. What is the goal of the planning process?
- The planning process synchronizes the unit's scheme of maneuver with the indirect fire support plan. It must identify critical times and places where the Infantry leader needs the maximum effects from fire-support assets. Leaders combine maneuver with fires to mass effects, achieve surprise, destroy enemy forces, and obtain decisive results.
345. What is The goal of Infantry leader's attack criteria?
- The goal of Infantry leader's attack criteria is to focus fires on seizing the initiative. The leader emphasizes simple and rapidly integrated direct and indirect fire support plans. This is done using quick-fire planning techniques and good SOPs. Leader integrates fire assets as far forward as possible in the movement formation to facilitate early emplacement. Fires concentrate (mass) on forward enemy elements to enable maneuver efforts to close with the enemy positions.
346. What is something the leader and subordinate unit leaders plan?
- The leader and subordinate unit leaders must plan to provide support and services to ensure freedom of action, extend operational reach, and prolong endurance. Sustainment is the provision of logistics, personnel services, and health service support (HSS) necessary to maintain operations until mission accomplishment.
347. What is the purpose of protection?
- Protection facilitates the Infantry leader's ability to maintain force integrity and combat power. Protection determines the degree to which potential threats can disrupt operations and counters or mitigates those threats. Emphasis on protection increases during preparation and continues throughout execution. Protection is a continuing activity; it integrates all protection capabilities to safeguard bases, secure routes, and protect forces.
348. Where are attacks best organized?
- Even in fluid situations, attacks are best organized and coordinated in AA. If the leader decides rapid action is essential to retain a tactical advantage, he may opt not to use an AA. Detailed advance planning, combined with digital communications, SOP, and battle drills, may reduce negative impacts of such a decision.
349. Where are attacking units located durin the preparation phase of an operation?
- Unless already in an AA, the attacking unit moves into one during the preparation phase. The unit moves with as much secrecy as possible, normally at night and

along routes preventing or degrading the enemy's capabilities to visually observe or otherwise detect the movement. It avoids congesting its AA and occupies it minimal possible time. While in the AA, each unit is responsible for its own protection activities, such as local security.

- b. The attacking unit should continue its TLP and priorities of work to the extent the situation and mission allow before moving to attack positions. What do these preparations include? Protecting the force.
  - c. Conducting task organization.
  - d. Performing reconnaissance.
  - e. Refining the plan.
  - f. Briefing the troops.
  - g. Conducting rehearsals, to include test firing of weapons.
  - h. Moving logistics and medical support forward.
  - i. Promoting adequate rest for both leaders and Soldiers.
  - j. Positioning the force for subsequent action.
350. What should leaders at all levels do as part of TLP?
- a. As part of TLP, leaders at all levels should conduct a personal reconnaissance of the actual terrain when this will not compromise operational security or result in excessive risk to the unit leadership. Modern information systems can enable leaders to conduct a virtual reconnaissance when a physical reconnaissance is not practical. If a limited visibility attack is planned, they also should reconnoiter the terrain at night.
351. What are considerations for executing an attack?
- a. Executing an attack is a series of advances and assaults by attacking units until they secure the final objective characterizes the attack. Leaders at all levels must use their initiative to shift their main effort between units as necessary to take advantage of opportunities and momentum to ensure the enemy's rapid destruction. Attacking units move as quickly as possible, following reconnaissance elements or probes through gaps in the enemy's defenses. They shift their strength to reinforce success and carry the battle deep into the enemy's rear. The leader does not delay the attack to preserve the alignment of subordinate units or to adhere closely to the preconceived plan of attack.
352. Why is extreme commitment to an initial plan a bad idea?
- a. The leader avoids becoming so committed to the initial plan that opportunities are neglected, and is mentally prepared to abandon failed attacks in order to exploit all unanticipated successes or enemy errors. This is achieved by designating another unit to conduct the decisive operation in response to the changing situation.
353. What sequence is used to execute an attack?
- a. Gain and maintain enemy contact.
  - b. Disrupt the enemy.
  - c. Fix the enemy.
  - d. Maneuver.
  - e. Follow through.

354. What is a vital component to the success of the offense?
- Gaining and maintaining contact with the enemy when he is determined to break contact is vital to the success of the offense. A defending enemy generally establishes a security area around his forces to make early contact with the attacking forces. This helps determine their capabilities, intent, chosen COA, and delays their approach. The enemy commander wants to use his security area to strip away friendly reconnaissance forces and hide his dispositions, capabilities, and intent. The goal is to compel the attacking force to conduct movement to contact against his defending force while knowing the exact location of the attacking forces.
355. What occurs after disrupting one element of enemy forces?
- Disrupting one or more parts of the enemy weakens the entire force and allows the friendly leader to attack the remaining enemy force in an asymmetrical manner. The assessment and decisions regarding what to disrupt, when to disrupt, and to what end are critical
356. What occurs once all types of contact is made with the enemy?
- Once all types of contact, even sensor contact is made with the enemy, the leader wants to use the element of surprise to conduct shaping operations striking at the enemy and disrupt both the enemy's combined arms team and his ability to plan and control his forces. Once this disruption process begins, it continues throughout the attack.
357. What is the purpose of fixing the enemy?
- A primary purpose in fixing the enemy is to isolate the objective of the force conducting the echelons decisive operation to prevent the enemy from maneuvering to reinforce the unit targeted for destruction. The Infantry leader does everything possible to limit the options available to his opponent. Fixing an enemy into a given position or a COA and controlling his movements limit his options and reduce the amount of uncertainty on the battlefield.
358. How is fixing the enemy accomplished?
- Fixing the enemy is done with the minimum amount of force. The Infantry leader normally allocates the bulk of his combat power to the force conducting his decisive operation. Fixing operations are, by necessity, shaping operations illustrating economy of force as a principle of war. Therefore, the leader must carefully consider which enemy elements to fix and target only those he can significantly affect the outcome of the fight.
359. How does the leader maneuver his forces once contact is made?
- The Infantry leader maneuvers his forces to gain positional advantage to seize, retain, and exploit the initiative while avoiding the enemy's defensive strength. He employs tactics defeating the enemy by attacking through a point of relative weakness, such as a flank or the rear. The key for success is to strike hard and fast, overwhelm a portion of the enemy force, and quickly transition to the next objective or phase, thus maintaining the momentum of attack without reducing the pressure.

360. What actions are taken during Movement From the Line of Departure to the Probable Line of Deployment?
- The unit transitions from troop movement to maneuver once it crosses the LD. It moves aggressively and as quickly as the terrain and enemy situation allow. It moves forward using appropriate movement techniques assisted by the fires of supporting units. Fire and movement are integrated and coordinated closely. Suppressive fires facilitate friendly movement, and friendly movement facilitates more fires. Whenever possible, the attacking unit uses avenues of approach avoiding strong enemy defensive positions, takes advantage of all available cover and concealment, and places the unit on the flanks and rear of the defending enemy. Where cover and concealment are not available, the unit uses obscurants to conceal its movement.
361. What actions are taken at the Probable Line of Deployment, Assault Position, or Final Coordination Line?
- The attacking unit maintains the pace of its advance as it approaches its probable line of deployment. The attacking unit splits into one or more assault and support forces once it reaches the PLD if not previously completed. All forces supporting the assault force should be set in their support-by-fire positions before the assault force crosses the probable line of deployment. The leader synchronizes the occupation of support-by-fire positions with the maneuver of the supported attacking unit to limit the vulnerability of forces occupying these positions. Leaders use unit tactical SOPs, battle drills, prearranged signals, engagement area, and TRP to control direct fires from these supporting positions and normally employs RFL between converging forces.
362. How are successful Breaching Operations conducted?
- To conduct breaching operations successfully, the platoon applies the breaching fundamentals of suppress, obscure, secure, reduce, and assault (SOSRA). The support force sets the conditions, the breach force reduces, clears, and marks the required number of lanes through the enemy's tactical obstacles to support the maneuver of the assault force. The leader must clearly identify the conditions allowing the breach force to proceed to avoid confusion. From the PLD, the assault force maneuvers against or around the enemy to take advantage of support force's efforts to suppress the targeted enemy positions.
363. What are Actions on the Objective during an assault?
- The effects of overwhelming and simultaneous application of fire, movement, and shock action characterize the final assault. This violent assault destroys or defeats and drives the enemy from the objective area. Small units conduct the final assault while operating under the control of the appropriate echelon command post.
  - Mounted forces have the option of conducting this final assault in either a mounted or dismounted configuration.
  - The platoon leader and company commander must decide whether or not the assault element will assault the objective mounted or dismounted. Generally, if the enemy is in restrictive terrain and poses a significant antiarmor threat, the

platoon assaults the objective dismounted. If the objective is on unrestrictive terrain and the enemy's antiarmor threat is minimal, the assault element may assault mounted.

- d. Mounted assault. If the platoon leader decides to assault mounted, then as soon as the BFVs assault across the objective, the rifle squads dismount to clear the objective of enemy forces
  - e. Dismounted assault. If the platoon leader decides to assault the objective dismounted, the platoon dismounts its rifle squads to assault the objective, and the vehicles move to support-by-fire positions. If possible, the platoon dismounts in an area that offers some cover and concealment from enemy observation and direct fire, which allows the platoon to assemble and orient appropriately. The dismount point must be close enough to the objective that the rifle squads do not become excessively fatigued while moving to the objective.
364. Whether assaulting mounted or dismounted, the platoon leader or company team commander designates the dismount point based on what factors?
- a. Short of the objective (near or at the assault position).
  - b. On the objective.
  - c. Beyond the objective.
365. What are the advantages and disadvantages of dismounting the rifle squads before reaching the objective?
- a. The advantages of dismounting the rifle squads before reaching the objective include: protection for the squad members while dismounting; better control at the dismount point; and an ability to suppress the enemy with indirect fires without endangering the platoon. The disadvantages include: exposure of the rifle squads to indirect and direct fires as the move toward the objective; and the enemy may target possible dismount points with indirect fires.
366. What are the advantages and disadvantages of dismounting the rifle squads on the objective?
- a. The advantages of dismounting the rifle squads on the objective include: better platoon speed toward the objective; protection for the rifle squads and the platoon maneuvers toward the objective. The disadvantages include: difficult to orient the rifle squads on specific locations or objectives while riding in the vehicle; difficult to control at the dismount point; and the vehicles are vulnerable to short-range, handheld antiarmor systems while dismounting the rifle squads.
367. What are advantages and disadvantages of dismounting beyond the objective?
- a. Dismounting beyond the objective has several potential advantages: effective control at the dismount point; easier to orient the rifle squads to the terrain and the objective; and confused or disoriented enemy are forced to fight in an unexpected direction. Significant disadvantages remain the platoon is vulnerable to attack from enemy defensive positions in-depth; the platoon is vulnerable to attack by enemy reserve forces; the vehicles are vulnerable to short-range, handheld antiarmor systems; and it is difficult to control direct fires, increasing the risk of fratricide.
368. What are preparations made in the assault position?

- a. Ideally, the platoon's assault element occupies the assault position without the enemy detecting the platoon's elements. Preparations in the assault position may include preparing Bangalore, other breaching equipment, or demolitions; fixing bayonets; lifting or shifting direct fires; or preparing smoke pots.
- 369. What happens if the platoon is detected as it gets to the assault position?
  - a. If the platoon is detected as it nears its assault position, indirect fire suppression is required on the objective and the support element increases its volume of fire. If the platoon needs to make last-minute preparations, then it occupies the assault position. If the platoon does not need to stop, it passes through the assault position, treating it as a PLD and assaults the objective. Sometimes, a platoon must halt to complete preparation and to ensure synchronization of friendly forces. Once the assault element moves forward of the assault position, the assault continues. If the assault element stops or turns back, the element could sustain excessive casualties.
- 370. How do infantry leaders destroy and suppress the enemy to sustain the momentum of an attack?
  - a. Infantry leaders employ all direct and indirect fire support means to destroy and suppress the enemy and sustain the momentum of attack. By carefully synchronizing the effects of indirect-fire systems and available CAS, leaders improve the likelihood of success. Fires are planned in series or groups to support maneuver against enemy forces on or near the geographical objective. As the leader shifts artillery fires and obscurants from the objective to other targets, the assault element moves rapidly across the objective. The support element must not allow its suppressive fires to lapse. These fires isolate the objective and prevent the enemy from reinforcing or counterattacking. They also destroy escaping enemy forces and systems.
- 371. What options does the infantry force have after seizing the objective?
  - a. After seizing the objective, the Infantry force has two alternatives: exploit success and continue the attack or terminate the offensive mission. After seizing an objective, the most likely on-order mission is to continue the attack. During consolidation, the unit continues TLP in preparation for all on-order missions assigned by a higher headquarters.
- 372. What does the process of assessment refer to?
  - a. Assessment refers to the continuous monitoring and evaluation of current situation, particularly the enemy, and progress of an operation. Assessment precedes and guides every operations process activity and concludes each operation or phase of an operation. It involves a comparison of forecasted outcomes to actual events.
- 373. Assessment entails what three tasks?
  - a. Continuously assessing the enemy's reactions and vulnerabilities.
  - b. Continuously monitoring the situation and progress of operation towards the commander's desired end state.
- 374. Evaluating the operation against measures of effectiveness and measures of performance.

375. What actions do leaders take after receiving the mission?
- Upon receiving the mission, leaders perform an initial assessment of the situation and METT-TC, focusing on the unit's role in the larger operation, and allocating time for planning and preparing. The two most important products from this initial assessment should be at least a partial restated mission, and a timeline. Leaders issue their initial WARNORD on this first assessment and time allocation.
376. What do army forces conduct operations based on?
- Army forces conduct (plan, prepare, execute, and assess) operations based on the all-source intelligence assessment developed by the intelligence section. The all-source intelligence assessment is expressed as part of the intelligence estimate. They are continuous and occur throughout the operations process and intelligence process. Most products resulting from all-source intelligence are initially developed during planning, and updated as needed throughout preparation and execution based on information gained from continuous assessment.
377. How do risk assessments help the leader make tactical decisions during the execution of a mission?
- During execution, assessment of risk assists the leader in making informed decisions on changing task organization, shifting priorities of effort and support, and shaping future operations. Effectiveness entails making accurate assessments and good decisions about how to fight the enemy. Mission complements command by using the most efficient means available. Vital supporting concepts are TLP, actions on contact, and risk management. Leaders use the assessment process to generate combat power.
378. What is an ambush?
- An ambush is an assault by fire or other destructive means from concealed positions on a moving or temporarily halted enemy. An ambush stops, denies, or destroys enemy forces by maximizing the element of surprise. Ambushes can employ direct fire systems as well as other destructive means, such as command-detonated mines, indirect fires, and supporting nonlethal effects. They may include an assault to close with and destroy enemy forces. In an ambush, ground objectives do not have to be seized and held.
379. What are three forms of an ambush? What are the goals for each?
- The three forms of ambush are point, area, and antiarmor ambush.
  - In a point ambush, a unit deploys to attack a single kill zone.
  - In an area ambush, a unit deploys into two or more related point ambushes. Units smaller than a platoon normally do not conduct an area ambush.
380. How is a typical ambush organized?
- A typical ambush is organized into three elements: assault, support, and security. The assault element fires into the kill zone. Its goal is to destroy the enemy force. When used, the assault force attacks into and clears the kill zone. It also may be assigned additional tasks, to include searching for items of intelligence value, capturing prisoners, photographing new types of equipment and when unable to take enemy equipment, completing the destruction of enemy equipment to avoid

its immediate reuse. The support element supports the assault element by firing into and around the kill zone, and it provides the ambush's primary killing power. The support element attempts to destroy the majority of enemy combat power before the assault element moves into the objective or kill zone. The security element isolates the kill zone, provides early warning of arrival of all enemy relief forces, and provides security for the assault and support elements. It secures the objective rally point (ORP) and blocks enemy avenues of approach into and out of the ambush site, which prevents the enemy from entering or leaving.

381. What is a counterattack?
- a. A counterattack is an attack by part or all of a defending force against an enemy attacking force, for such specific purposes as regaining ground lost or cutting off or destroying enemy advance units. The general objective is to deny the enemy his goal in attacking. The leader directs a counterattack normally conducted from a defensive posture, to defeat or destroy enemy forces, exploit an enemy weakness such as an exposed flank, or to regain control of terrain and facilities after an enemy success. A unit conducts a counterattack to seize the initiative from the enemy through offensive action. A counterattacking force maneuvers to isolate and destroy a designated enemy force. It can be an assault by fire into an engagement area to defeat or destroy an enemy force, restore the original position, or block an enemy penetration. Once launched, the counterattack normally becomes a decisive operation for the leader conducting the counterattack.
382. When does a counterattack occur?
- a. To be decisive, the counterattack occurs when the enemy is overextended, dispersed, and disorganized during his attack. All counterattacks should be rehearsed in the same conditions they will be conducted. Careful consideration is given to the event triggering the counterattack. Once committed, the counterattack force conducts the decisive operation.
383. What is a demonstration?
- a. In military deception, a demonstration is a show of force in an area where a decision is not sought but made to deceive a threat. It is similar to a feint, but no actual contact with the threat is intended.
384. What is a feint?
- a. A feint is an attack used to deceive the enemy as to the location or time of the actual decisive operation. Forces conducting a feint seek direct fire contact with the enemy but avoid decisive engagement. As in the demonstration, leader use feints in conjunction with other military deception activities.
385. What is a raid? What is the purpose of a raid?
- a. A raid is a limited-objective, deliberate operation entailing swift penetration of hostile terrain. A raid is not intended to hold territory; and it requires detailed intelligence, preparation, and planning.
386. The Infantry platoon and squad conducts raids as part of a larger force to accomplish a number of missions. What are some of these missions?
- a. Capture prisoners, installations, or enemy materiel.

- b. Capture or destroy specific enemy command and control locations.
  - c. Destroy enemy materiel or installations.
  - d. Obtain information concerning enemy locations, dispositions, strength, intentions, or methods of operation.
  - e. Confuse the enemy or disrupt his plans.
  - f. Liberate friendly personnel.
387. What is a spoiling attack?
- a. A spoiling attack is a tactical maneuver employed to impair a hostile attack while the enemy is in the process of forming or assembling for an attack. The spoiling attack usually employs heavy, attack helicopter, or fire support elements to attack on enemy assembly positions in front of a main line of resistance or battle position.
388. What is the objective of a spoiling attack?
- a. The objective of a spoiling attack is to disrupt the enemy's offensive capabilities and timelines while destroying targeted enemy personnel and equipment, not to secure terrain and other physical objectives.
389. Two conditions must be met to conduct a survivable spoiling attack. What are they?
- a. The spoiling attack's objective must be obtainable before the enemy being able to respond to the attack in a synchronized and coordinated manner.
390. The force conducting the spoiling attack must be prevented from becoming over extended.
391. When are spoiling attacks conducted?
- a. Infantry forces conduct a spoiling attack whenever possible during friendly defensive missions to strike an enemy force while it is in AA or attack positions preparing for its own offensive mission or is stopped temporarily.
392. What is the goal of electronic warfare operations?
- a. Army electronic warfare operations seek to enable the land force commander to support unified land operations through decisive action. Decisive action consists of the simultaneous combination of offense, defense, and stability or defense support of civil authorities appropriate to the mission and environment. The central idea of unified land operations is to seize, retain, and exploit the initiative to gain and maintain a position of relative advantage in sustained land operations in order to create the conditions for favorable conflict resolution.
393. What is the foundation of land operations built upon?
- a. The foundation of unified land operations is built on initiative, decisive action, and mission command—linked and nested through purposeful and simultaneous execution of both combined arms maneuver and wide area security—to achieve the commander's intent and desired end state. Appropriately applied, electronic warfare enables successful unified land operations. Commanders and staffs determine which resident and joint force electronic warfare capabilities to use in support of each element of decisive action. As they apply the appropriate level of electronic warfare effort to support these elements, commanders can seize, retain, and exploit the initiative within the electromagnetic environment. Once a commander can seize, retain, and exploit the initiative within the electromagnetic

environment, then control becomes possible. Commanders plan, prepare, execute, and assess electronic warfare operations to control the electromagnetic spectrum.

394. How is electromagnetic spectrum control maintained?
  - a. To exercise electromagnetic spectrum control commanders effectively apply and integrate electronic warfare operations across the warfighting functions: mission command, movement and maneuver, intelligence, fires, sustainment, and protection.
395. How do optics impact the effectiveness of infantry units?
  - a. Effective use of advanced optical sights and equipment during limited visibility attacks enhances the ability of squads and platoons to achieve surprise, hit targets, and cause panic in a lesser-equipped enemy. Advanced optics and equipment allow the Infantry Soldier to see farther and with greater clarity. They provide an advantage over the enemy.
396. What tools do Infantry platoons and squads have during limited visibility operations?
  - a. Night vision equipment mounted on the helmet of each Soldier.
  - b. Weapon-mounted and handheld devices to identify and designate targets.
  - c. Vision devices and thermal imagers on the BFV for both the driver and the vehicle commander manning the turret.
397. What are considerations for the use of NVDs?
  - a. Night vision devices provide good visibility in all but pitch-black conditions but do somewhat limit the Soldier's field of view. Since they do not transmit a light source, the enemy detection devices cannot detect them.
398. How can the BFV be used for limited visibility ops?
  - a. The BFV is as effective at night as during the day. It can be driven and its weapon systems can be fired during limited visibility. The driver has an enhanced vision capability, and the vehicle commander has both an enhanced vision and thermal imaging capability. The BFV is capable of accurately identifying its current location with the onboard GPS. The common operational picture allows leaders to locate their subordinate units at all times.
399. What three types of advanced optics and equipment are available for use in fire control?
  - a. Infantry leaders and Soldiers have an increased ability to designate and control fires during limited visibility. There are three types of advanced optics and equipment for use in fire control:
  - b. Target designators. Leaders can designate targets with greater precision using infrared laser pointers that place an infrared light to designate targets and sectors of fire and to concentrate fire. The leader lazels a target on which he directs his Soldiers to place their fires. The Soldiers then use their weapon's aiming lights to engage the target.
  - c. Aiming lights. Soldiers with aiming lights have greater accuracy of fires during limited visibility. Each Soldier in the Infantry platoon is equipped with an aiming light for his individual weapon. Aiming lights work with the individual Soldier's

helmet-mounted night vision goggles. It puts an infrared light on the target at the point of aim.

- d. Target illuminators. Leaders can designate larger targets using target illuminators. Target illuminators are essentially infrared light sources that light the target, making it easier to acquire effectively. Leaders and Soldiers use the infrared devices to identify enemy or friendly personnel and then engage targets using their aiming lights.
400. What are considerations for the use of illumination during limited visibility ops?
- a. Leaders plan but may not use illumination during limited visibility attacks. Battalion commanders normally control conventional illumination, but may authorize the company team commander to do so. If the commander decides to use conventional illumination, he should not call for it until the assault is initiated or the attack is detected. It should be placed on several locations over a wide area to confuse the enemy as to the exact place of the attack. It should be placed beyond the objective to help assaulting Soldiers see and fire at withdrawing or counterattacking enemy Soldiers. The platoon leader, squad leaders, and vehicle commanders must develop TACSOPs and sound COAs to synchronize the employment of infrared illumination devices, target designators, and aiming lights during their assault on the objective. These include using luminous tape or chemical lights to mark personnel and using weapons control restrictions.
401. The platoon leader may use what techniques to increase control during the assault?
- a. Use no flares, grenades, or smoke on the objective.
  - b. Use only certain personnel with night vision devices to engage targets on the objective.
  - c. Use a magnetic azimuth for maintaining direction.
  - d. Use mortar or artillery rounds to orient attacking units.
  - e. Use a base squad or fire team to pace and guide others.
  - f. Reduce intervals between Soldiers and squads.
402. How are fires planned for limited visibility attacks?
- a. Like a daylight attack, indirect and direct fires are planned for a limited visibility attack, but are not executed unless the platoon is detected or is ready to assault. Some weapons may fire before the attack and maintain a pattern to deceive the enemy or to help cover noise made by the platoon's movement. This is not done if it will disclose the attack.
403. How does the use of smoke reduce enemy visibility?
- a. Smoke further reduces the enemy's visibility, particularly if he has night vision devices. The forward observer fires smoke rounds close to or on enemy positions so it does not restrict friendly movement or hinder the reduction of obstacles. Employing smoke on the objective during the assault may make it hard for assaulting Soldiers to find enemy fighting positions. If enough thermal sights are available, smoke on the objective may provide a decisive advantage for a well-trained platoon.
404. When can obscuration missions occur?

- a. Obscuration mission planning and execution can occur during both the offense and the defense and can be very effective. Firing smoke on enemy positions can degrade the vision of gunners and known or suspected observation posts, preventing them from seeing or tracking targets and, thereby, reducing their effectiveness. When employed against an attacking force, white phosphorus (WP) can cause confusion and disorientation by degrading the enemy's mission command capabilities; while friendly units retain the ability to engage the enemy using thermal sights and range cards. Enemy vehicles become silhouetted as they emerge from the smoke. If smoke employment is planned and executed correctly, this occurs as the enemy reaches the trigger line.
405. Why are obscuration missions important functions for mortar elements?
- a. Obscuration missions are important functions for mortars. Smoke missions must be planned well in advance so that the mortar carriers are loaded with a sufficient number of smoke rounds.
406. What are important factors for planning target effects for obscuration mortar rounds?
- a. Atmospheric stability, wind velocity, and wind direction are the most important factors when planning target effects for smoke and WP mortar rounds. The effects of atmospheric stability can determine whether mortar smoke is effective at all or, if effective, how much ammunition is needed.
407. What are considerations for obscuration fire missions?
- a. During unstable conditions, mortar smoke and WP rounds are almost ineffective—the smoke does not spread but often climbs straight up and quickly dissipates.
  - b. Under moderately unstable atmospheric conditions, base-ejecting smoke rounds are more effective than BFV bursting WP rounds.
  - c. Under stable conditions, both red phosphorous and WP rounds are effective.
  - d. The higher the humidity, the better the screening effects of mortar rounds.
408. What affects the effectiveness of smoke and WP rounds?
- a. The terrain in the target area affects smoke and WP rounds. If the terrain in the target area is swampy, rain-soaked, or snow-covered, then burning smoke rounds may not be effective. These rounds produce smoke by ejecting felt wedges soaked in phosphorus. These wedges then burn on the ground, producing a dense, long-lasting cloud. If the wedges fall into mud, water, or snow, they can extinguish. Shallow water can reduce the smoke produced by these rounds by as much as 50 percent. The terrain in the target area affects BFV bursting WP rounds little, except that deep snow and cold temperatures can reduce the smoke cloud by about 25 percent.
409. How can vehicle smoke grenade launchers be used for obscuration effects?
- a. The vehicle smoke grenade launchers can provide a screening, incendiary, marking, and casualty-producing effect. It produces a localized, instantaneous smoke cloud by scattering burning WP particles. The 120-mm heavy mortar and 81-mm medium mortar WP and red phosphorus rounds produce a long-lasting and wide area smoke screen and can be used for incendiary effects, marking, obscuring, screening, and casualty producing. The 60-mm lightweight company

mortar WP round can be used as a screening, signaling, and incendiary agent.  
All mortar smoke rounds can be used as an aid in target location and navigation.

410. What is consolidation?
- Consolidation is the process of organizing and strengthening a newly captured position so it can be defended. Normally, the attacking unit tries to exploit its success regardless the type of assault. In some situations, however, the unit may have to consolidate its gains. Consolidation may vary from a rapid repositioning of forces and security elements on the objective, to a reorganization of the attacking force, to the organization and detailed improvement of positions for defensive missions.
411. What actions are taken during consolidation?
- Consolidation consists of actions taken to secure the objective and defend against an enemy counterattack. Leaders use TLP to plan and prepare for this phase of operation. They ensure the unit is ready to conduct the following actions that usually are part of consolidation:
  - Eliminate enemy resistance on the objective.
  - Establish security beyond the objective by securing areas that may be the source of enemy direct fires or enemy artillery observation.
  - Establish additional security measures such as observation posts and patrols.
  - Prepare for and assist the passage of follow-on forces (if required).
  - Continue to improve security by conducting other necessary defensive actions. These defensive actions include engagement area development, direct fire planning, and battle position preparation.
  - Adjust final protective fires and register targets along likely mounted and dismounted avenues of approach.
  - Protect the obstacle reduction effort. Secure enemy detainees.
  - Prepare for enemy counterattack.
412. When is reorganization conducted? What actions are taken during reorganization?
- Reorganization usually is conducted concurrently with consolidation. It consists of actions taken to prepare units for follow-on operations. As with consolidation, unit leaders plan and prepare for reorganization as they conduct TLP.
413. What actions must leaders ensure are taken during consolidation and reorganization?
- Unit leaders ensure the following actions are conducted:
  - Provide essential medical treatment and evacuate casualties as necessary.
  - Treat and evacuate wounded detainees and process the remainder of detainees.
  - Cross-level personnel and adjust task organization as required to support the next phase or mission.
  - Conducts resupply operations, including rearming and refueling.
  - Redistribute ammunition.
  - Conduct required maintenance.
  - Continue improvement of defensive positions as necessary.
414. What must all infantry units plan for during all attacks?

- a. For all attacks, Infantry units should and must plan to exploit success. However, at the conclusion of an engagement, the unit leader may be forced to defend. For short defenses, units make use of existing terrain to enhance their survivability. If a longer defense is envisioned, engineer assets immediately should refocus their efforts on providing survivability support (fighting positions and similar activities). Engineer assets should do this even as they sustain mobility and integrate countermobility into the planned defensive mission. The Infantry leader considers the higher commander's concept of the operation, friendly capabilities, and enemy situation when making the decision to defend or continuing the offense.
415. When should the leader order subordinates to transition from offensive to defensive tasks?
- a. As offensive tasks approach a culmination point, the unit leader could order a transition to defensive tasks. The leader can use two basic techniques when he transitions to the defense. The first technique is leading elements to commit forces and push forward to claim enough ground to establish a security area anchored on defensible terrain. The second technique is to establish a security area generally along the unit's final positions, moving the main body rearward to defensible terrain.
416. What actions does the leader take as the unit transfers from an offensive to a defensive posture?
- a. The Infantry leader anticipating the termination of unit offensive tasks prepares orders including the time or circumstances under which the current offensive task transitions to a defensive-focused mission, the missions and locations of subordinate units, and mission command measures. As the unit transitions from an offensive to a defensive focus, the leader takes the following actions:
  - b. Maintains contact and surveillance of the enemy, using a combination of reconnaissance units and surveillance assets to develop the information required to plan future actions.
  - c. Establishes a security area and local security measures.
  - d. Redeploys indirect fire assets to ensure the support of security forces.
  - e. Redeploys forces based on probable future employment.
  - f. Maintains or regains contact with adjacent units in a contiguous area of operations and ensures units remain capable of mutual support in a noncontiguous area of operations.
  - g. Request engineer assets to shift the emphasis from mobility to countermobility and survivability.
  - h. Consolidates and reorganizes.
417. What occurs as an offensive task approaches a culmination?
- a. As an offensive task approaches a culmination, or upon order from higher headquarters, the Infantry leader could order a transition to stability focused mission. These tasks establish a safe, secure environment facilitating reconciliation among local or regional threat. Stability tasks aim to establish conditions supporting the transition to legitimate host-nation governance, a functioning civil society, and a viable market economy. For the Infantry platoon

the platoon leader must ensure contingencies are planned to transition quickly from offense to stability and vice versa. For example, it may be tactically wise for him to plan a defensive contingency with on-order offensive missions or stability tasks could deteriorate.

418. What must subordinate leaders be trained to recognize during the transition from offense to defense?
- Subordinate leaders must be fully trained to recognize activities initiating this transition. Actions in one unit's area of operation can affect whatever type operation an adjacent unit is conducting. For example, an offensive task may cause noncombatants to be displaced to another section of the city creating a humanitarian assistance mission for the unit in the area of operation.
419. What is a defensive task?
- A defensive task is a task conducted to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability tasks. (Refer to ADRP 3-90 for more information.) Normally, the defense alone cannot achieve a decision. However, it can set conditions for a counteroffensive or counterattack that enables Army forces to regain the initiative. Other reasons for conducting defensive tasks include, retain decisive terrain or deny a vital area to the enemy, attrition or fix the enemy as a prelude to the offense, counter surprise action by the enemy, or to increase the enemy's vulnerability by forcing the enemy commander to concentrate subordinate forces. This chapter covers basics of the defense, common defensive planning considerations, forms of the defense engagement area development, and transitions.
420. How does the infantry platoon and squad use the defense?
- The Infantry platoon and squad uses the defense to occupy and prepare positions and mass the effects of direct fires on likely avenues of approach or mobility corridors. While the offense is the most decisive type of combat operation, the defense is the stronger type. The following paragraphs discuss the basics of the defense.
421. What strengths does the defense have?
- The defense has inherent strengths. The defender arrives in the area of operation before the attacker and uses the available time to prepare. These preparations multiply the defense's effectiveness. Preparations end only when the defenders retrograde or begin to fight. Until then, preparations are continuous. Preparations in-depth continues, even as the close fight begins.
422. How does security help deceive the enemy?
- Security helps deceive the enemy as to friendly locations, strengths, and weaknesses. It also inhibits or defeat enemy reconnaissance. Security measures provide early warning and disrupt enemy attacks early and continuously.
423. How do defensive operations disrupt enemy offensive operations?
- Defenders disrupt attackers' tempo and synchronization with actions designed to prevent them from massing combat power. Disruptive actions attempt to unhinge the enemy's preparations and, ultimately, his attacks. Methods include defeating

or misdirecting enemy reconnaissance forces, breaking up his formations, isolating his units, and attacking or disrupting his systems.

424. What should defenders seek to accomplish?
- Defenders seek to mass the effects of overwhelming combat power where they choose and shift it to support the decisive operation. To obtain an advantage at decisive points, defenders economize and accept risk in some areas; retain and, when necessary, reconstitute a reserve; and maneuver to gain local superiority at the point of decision. Unit leaders accept risk in some areas to mass effects elsewhere. Obstacles, security forces, and fires can assist in reducing risk.
425. What plans does the defense require?
- The defense requires flexible plans. Planning focuses on preparation in-depth, use of reserves, and ability to shift the main effort. Leaders add flexibility by designating supplementary positions, designing counterattack plans, and preparing to counterattack.
426. What advantages does maneuver allow the defender?
- Maneuver allows the defender to take full advantage of area of operation and to mass and concentrate when desirable. Maneuver, through movement in combination with fire, allows the defender to achieve a position of advantage over the enemy to accomplish the mission. It also encompasses defensive actions such as security and support area operations.
427. What improves the chances for success while minimizing friendly casualties during defensive operations?
- Simultaneous application of combat power throughout the area of operation improves the chances for success while minimizing friendly casualties. Quick, violent, and simultaneous action throughout the depth of the defender's area of operation can hurt, confuse, and even paralyze an enemy force just as it is most exposed and vulnerable. Such actions weaken the enemy's will and do not allow all early enemy successes to build the confidence of the enemy's Soldiers and leaders. In-depth planning prevents the enemy from gaining momentum in the attack. Synchronization of decisive, shaping, and sustaining operations facilitates mission success.
428. What are the three basic defensive tasks?
- There are three basic defensive tasks: area defense, mobile, and retrograde. Each contains elements of the others, and usually contains both static and dynamic aspects. Infantry platoons serve as the primary maneuver element, or terrain-controlling units for the Infantry company. They can defend area of operation, positions; serve as a security force or reserve as part of the Infantry company's coordinated defense.
429. What can the infantry platoon do as part of a defense?
- As part of a defense, the Infantry platoon can defend, delay, withdraw, counterattack, and perform security tasks. The Infantry platoon usually defends, as part of the Infantry company's defense in the main battle area.
430. What effects does the PLT try to achieve during the defense?
- Gain time.

- b. Retain essential terrain.
  - c. Support other operations.
  - d. Preoccupy the enemy in one area while friendly forces attack in another.
  - e. Wear down enemy forces at a rapid rate while reinforcing friendly operations.
431. What is the focus during an area defense?
- a. An area defense concentrates on denying enemy forces access to designated terrain for a specific time rather than destroying the enemy outright. The focus is on retaining terrain where the bulk of the defending force positions itself in mutually supporting positions and controls the terrain between positions. The defeat mechanism is fires into engagement area, which reserve units can supplement. The leader uses the reserve force to reinforce fires, add depth, block penetrations, restore positions, counterattack to destroy enemy forces, and seize the initiative.
432. What are forces organized during defensive operations?
- a. The leader organizes the defending force to accomplish information collection, reconnaissance operations; security; main battle area; reserve; and sustainment missions. The leader has the option of defending forward or defending in-depth. When the leader defends forward within an area of operation, the force is organized so most of available combat power is committed early in the defensive effort. To accomplish this, the leader may deploy forces forward or plan counterattacks well forward in the main battle area or even beyond the main battle area. If the leader has the option of conducting a defense in-depth, security forces and forward main battle area elements are used to identify, define, and control the depth of the enemy's main effort while holding off secondary thrusts. This allows the leader to conserve combat power, strengthen the reserve, and better resource the counterattack.
433. What does the leader need to balance during defensive operations?
- a. The leader balances the need to create a strong security force to shape the battle with the resulting diversion of combat power from the main body's decisive operation. The leader usually allocates security forces to provide early warning and protect those forces, systems, and locations necessary to conduct the decisive operation from unexpected enemy contact.
434. What does the leader build decisive operations around?
- a. The leader builds the decisive operation around identified decisive points, such as key terrain or high-payoff targets. The leader positions the echelon main body within the main battle area where the leader wants to conduct the decisive operation. The leader organizes the main body to halt, defeat, and ultimately destroy attacking enemy forces. The majority of the main body deploys into prepared defensive positions within the main battle area.
435. What is the goal of reserve forces?
- a. The reserve is not a committed force. The leader can assign it a wide variety of tasks on its commitment, and it must be prepared to perform other missions. In certain situations, it may become necessary to commit the reserve to restore the

integrity of the defense by blocking an enemy penetration or reinforcing fires into an engagement area.

436. What are considerations for the sustainment mission in an area defense?
- The sustainment mission in an area defense requires a careful balance between establishing forward supply stocks of petroleum, oil, and lubricants (POL); barrier materiel; and ammunition in adequate amounts to support defending units and having too many supplies located in forward locations that they cannot be rapidly moved in reacting to enemy advances. All suitable POL, barrier materiel, construction equipment, and laborers can be lawfully obtained from the civil infrastructure reducing the defending unit's transportation requirements. Likewise, maintenance and medical support with their associated repair parts and medical supplies also must be forward deployed.
437. What are the two forms of defensive maneuver within an area defense?
- Two forms of defensive maneuver within an area defense are defense in-depth and forward defense. The Infantry platoon is expected to be able to do both. While the Infantry company commander usually selects the type of area defense to use, the higher commander often defines the general defensive scheme for the Infantry company. The specific mission may impose constraints such as time, security, and retention of certain areas that are significant factors in determining how the Infantry company will defend.
438. What are the benefits of using a defense in depth?
- Defense in-depth reduces the risk of the attacking enemy quickly penetrating the defense. The enemy is unable to exploit a penetration because of additional defensive positions employed in-depth. (See figure 3-1.) The in-depth defense provides more space and time to defeat the enemy attack.
439. What does the Infantry platoon use a defense in-depth?
- The mission allows the Infantry platoon to fight throughout the depth of the areas of operations.
  - The terrain does not favor a defense well forward, and better defensible terrain is available deeper in the areas of operations. Sufficient depth is available in the areas operations.
  - Cover and concealment forward in the areas of operations is limited.
  - Weapons of mass destruction may be used.
440. What is the intent behind a forward defense?
- The intent of a forward defense is to prevent enemy penetration of the defense. (See figure 3-2, page 3-6.) Due to lack of depth, a forward defense is least preferred. The Infantry platoon deploys the majority of its combat power into forward defensive positions near the forward edge of the battle area. While the Infantry company may lack depth, the platoon and squads must build depth into the defense at their levels. The leader fights to retain the forward position, and may conduct counterattacks against enemy penetrations, or to destroy enemy forces in forward engagement area. Often, counterattacks are planned forward of the forward edge of the battle area to defeat the enemy.
441. When does the Infantry platoon use a forward defense?

- a. Terrain forward in the areas of operations favors the defense.
  - b. Strong existing natural or man-made obstacles, such as river or a rail lines, are located forward in areas of operations.
  - c. The assigned area of operations lacks depth due to location of the area or facility to be protected.
  - d. Cover and concealment in rear portions of the areas of operations is limited.
  - e. Directed by higher headquarters to retain or initially control forward terrain.
442. What are the characteristics of a mobile defense?
- a. Mobile defense is a defensive task that concentrates on destruction or defeat of the enemy through a decisive attack by a striking force. Mobile defenses focus on defeating or destroying the enemy by allowing enemy forces to advance to a point where they are exposed to a decisive counterattack by the striking force. The leader uses the fixing force to hold attacking enemy in position, to help channel attacking enemy forces into ambush areas, to retain areas from which to launch the striking force. Mobile defenses require an area of operation of considerable depth. The leader must be able to shape the battlefield, causing an enemy to overextend its lines of communication, expose its flanks, and dissipate its combat power. Likewise, the leader must be able to move friendly forces around and behind the enemy force targeted to cut off and destroyed. Divisions or larger formations normally execute mobile defenses. However, the platoon may participate as part of the fixing force or the striking force.
443. Why do small units not conduct mobile defense?
- a. Units smaller than a division usually do not conduct a mobile defense because of inability to fight multiple engagements throughout the width, depth, and height of their area of operation, while simultaneously resourcing the striking, fixing, and reserve forces. Typically, the striking force in a mobile defense consists of one-half to two-thirds of the defender's combat power.
444. What are the infantry platoon's missions in a mobile defense?
- a. Infantry platoons' missions in a mobile defense are similar to missions in area defense and offensive missions. They are either a part of the fixing force or part of the striking force, not both. As part of the fixing force, platoons defend within their assigned area of operation, although the area of operation might be larger than usual. As part of the striking force, Infantry platoons plan, rehearse, and execute offensive tasks.
445. Why do platoons use the term striking force?
- a. Platoons use the term "striking force" rather than the term "reserve" because "reserve" indicates an uncommitted force. The striking force is a committed force that has the resources to conduct a decisive counterattack as part of the mobile defense. The striking force decisively engages the enemy as it becomes exposed in attempts to overcome the fixing force. The striking force normally attacks a moving enemy force, normally armor heavy.
446. What is the definition of retrograde?
- a. Retrograde is a defensive task involving organized movement away from the enemy. The enemy may force a retrograde or the leader may execute it

voluntarily. In either case, the higher commander of the force executing the operation must approve retrograding.

447. Why are retrogrades conducted?
- Retrogrades are conducted to improve a tactical situation or preventing a worse situation from developing. Platoons usually conduct retrogrades as part of a larger force but may conduct independent retrogrades (withdrawal) as required. Retrograde operations can accomplish the following:
  - Resist, exhaust, and defeat enemy forces.
  - Draw the enemy into an unfavorable situation.
  - Avoid contact in undesirable conditions.
  - Gain time.
  - Disengage a force from battle for use elsewhere for other missions.
  - Reposition forces, shorten lines of communication, or conform to movements of other friendly units.
  - Secure favorable terrain.
448. What are the three forms of retrograde?
- Delay
  - Withdrawal
  - Retirement
449. What do delays allow units to accomplish?
- Delays allow units to trade space for time, avoiding decisive engagement and safeguard its forces. Ability of a force to trade space for time requires depth within the area of operation assigned to the delaying force. The amount of depth required depends on several factors, including the—
  - Amount of time to be gained.
  - Relative combat power of friendly and enemy forces.
  - Relative mobility of forces.
  - Nature of terrain.
  - Ability to shape areas of operations with obstacles and fires.
  - Degree of acceptable risk.
450. What makes delays successful?
- Delays succeed by forcing the enemy to concentrate forces to fight through a series of defensive positions. Delays must offer a continued threat of serious opposition, forcing the enemy to repeatedly deploy and maneuver. Delaying forces displace to subsequent positions before the enemy is able to concentrate sufficient resources to decisively engage and defeat delaying forces in current positions. The length of time a force can remain in position without facing danger of becoming decisively engaged is primarily a function of relative combat power, METT-TC and weather.
451. Delays gain time to accomplish what tasks?
- Allow friendly forces to establish a defense.
  - Cover withdrawing forces.
  - Protect friendly force's flanks.
  - Allow friendly forces to counterattack.

452. How are the parameters of the delay specified?
- Parameters of the delay are specified in the order for a delay mission. First, leaders direct one of two alternatives: delay within the area of operation or delay forward of a specified line or terrain feature for a specified time. The second parameter in the order must specify acceptable risk. Acceptable risk ranges from accepting decisive engagement in an attempt to hold terrain for a given time maintaining integrity of the delaying force. The order must specify whether the delaying force may use the entire area of operation or must delay from specific battle positions. A delay using the entire area of operation is preferable, but a delay from specific positions may be required to coordinate two or more units.
453. What are considerations leaders must make when planning a delay?
- Leaders normally assign subordinate units contiguous area of operation that are deeper than they are wide. Leaders use obstacles, fires, and movement throughout the depth of assigned area of operation. If the leader plans the delay to only last a short time or the area of operation's depth is limited, delaying units may be forced to fight from a single set of positions. If the leader expects the delay to last for longer periods, or sufficient depth is available, delaying units may delay from either alternate or successive positions. In both techniques, delaying forces normally reconnoiter subsequent positions before occupying them if possible, and post guides on one or two subsequent positions. Additionally, in executing both techniques, it is critical the delaying force maintains contact with the enemy between delay positions.
454. What is the alternate position technique normally preferred?
- The alternate position technique normally is preferred when adequate forces are available and areas of operation have sufficient depth. Delays from alternate positions, two or more units in a single area of operation occupy delaying positions in-depth. (See figure 3-3, page 3-10.) As the first unit engages the enemy, the second occupies the next position in-depth and prepares to assume responsibility for the operation. The first force disengages and passes around or through the second force. It then moves to the next position and prepares to re-engage the enemy while the second force takes up the fight.
455. What are delays from subsequent positions used?
- Delays from subsequent positions are used when assigned area of operation are so wide available forces cannot occupy more than a single tier of positions. (See figure 3-4.) Delays from subsequent positions must ensure all delaying units are committed to each of the series of battle positions or across the area of operation on the same phase line. Most of the delaying force is located well forward. Mission dictates the delay from one battle position or phase line to the next. Delaying unit movement is staggered so not all forces are moving at the same time.
456. What is the definition of withdrawal?
- Withdrawal is a planned retrograde operation, which a force in contact disengages from an enemy force, and moves in a direction away from the enemy. Although the leader avoids withdrawing from action under enemy pressure, it is

not always possible. Withdrawal is used to preserve the force or release it for a new mission.

457. Why are withdrawals dangerous?
- Withdrawals are inherently dangerous. They involve moving units to the rear and away from what is usually a stronger enemy force. The heavier the previous fighting and closer the contact with the enemy, the more difficult the withdrawal. Units usually confine rearward movement to times and conditions when the advancing enemy force cannot observe the activity or easily detect the operation. OPSEC is extremely important, especially crucial during the initial stages of a delay when most of the functional and sustainment forces displace.
458. How are withdrawals planned?
- The leader plans and coordinates a withdrawal in the same manner as a delay. METT-TC applies differently because of differences between a delay and withdrawal. A withdrawal always begins under the threat of enemy interference. Because the force is most vulnerable when the enemy attacks, the leader plans for a withdrawal under pressure. The leader then develops contingencies for a withdrawal without pressure.
459. What are the leader's main considerations within a withdrawal?
- In both cases, the leaders main considerations are to—
  - Plan a deliberate break from the enemy.
  - Displace the main body rapidly, free of enemy interference.
  - Safeguard withdrawal routes.
  - Retain sufficient maneuver, functional/multifunctional support and sustainment capabilities throughout the operation supporting forces in contact with the enemy
460. What four variations of withdrawals are there? What two factors contribute to these four variations?
- Withdrawals may be assisted or unassisted. They may or may not take place under enemy pressure. These two factors combined produce four variations. (See figure 3-5.) The figure below depicts the mission graphic for a withdrawal and withdrawal under enemy pressure. The withdrawal plan considers which variation the force currently faces.
461. What type of withdrawal is preferred?
- Leaders prefer to conduct a withdrawal while not under enemy pressure and without assistance. Actions by the enemy, as well as additional coordination needed because of presence of an assisting unit, complicate the operation.
462. What happens during an assisted withdrawal?
- During an assisted withdrawal, the assisting force occupies positions to the rear of the withdrawing unit and prepares to accept control of the situation. Both forces closely coordinate the withdrawal. A withdrawing force can receive assistance from another force in the form of—
  - Additional security for the area through which the withdrawing force will pass. Information concerning withdrawal routes (reconnaissance and maintenance). Forces to secure choke points or key terrain along withdrawal routes. Elements to assist in movement control, such as traffic control post.

- c. Required maneuver, direct fire support and sustainment, which can involve conducting a counterattack to assist the withdrawing unit in disengaging from the enemy.
463. What happens during an unassisted withdrawal?
- a. During an unassisted withdrawal, the withdrawing unit establishes routes and develops plans for the withdrawal. It establishes the security force as a rear guard while the main body withdraws. Sustainment and protection forces usually withdraw first, followed by combat forces. As the unit withdraws, the detachment left in contact (DLIC) disengages from the enemy and follows the main body to its final destination.
464. What occurs during an unassisted platoon withdrawal?
- a. In an unassisted platoon withdrawal, the platoon leader may designate one squad to execute the DLIC mission for the platoon, or constitute the DLIC using elements from the remaining rifle squads with the platoon sergeant as the DLIC leader. Figure 3-6 shows an example of an unassisted withdrawal.
465. What occurs during a withdrawal under enemy pressure?
- a. In a withdrawal under enemy pressure, all units withdraw simultaneously when available routes allow, using delaying tactics to fight their way to the rear. When simultaneous withdrawal of all forces is not practical, the leader decides the order of withdrawal.
  - b. Several factors influence this decision:
  - c. Subsequent missions.
  - d. Availability of transportation assets and routes.
  - e. Disposition of friendly and enemy forces.
  - f. Level and nature of enemy pressure.
  - g. Degree of urgency associated with the withdrawal.
466. What is retirement?
- a. Retirement is a task employing to move a force not in contact to the rear. Retirement is a form of retrograde, which a force not in contact with the enemy moves away from the enemy. A retiring unit organizes for combat but does not anticipate interference by enemy ground forces. Typically, another unit's security force covers the movement of one formation as the unit conducts a retirement. However, mobile enemy forces, unconventional forces, air strikes, air assaults, or long-range fires may attempt to interdict the retiring unit. The leader plans for enemy actions and organizes the unit to fight in selfdefense. The leader usually conducts retirement to reposition his forces for future operations or to accommodate the current concept of the operation. Units conduct retirements such as tactical road marches where security and speed are the most important considerations.
467. How does the infantry platoon conduct the defense?
- a. Usually, as part of a larger element, the Infantry platoon conducts the defense performing several integrated and overlapping activities. The following paragraphs focus on the tactical considerations and procedures involved in each activity. This discussion shows an attacking enemy that uses depth in its

operations, but there will be situations where a platoon must defend against an enemy that does not have a doctrinal operational foundation. The platoon must be prepared to defend against such threats. This unconventional (insurgent or terrorist force) enemy situation requires a more flexible plan that allows for more responsive and decentralized control of combat power rather than spreading it evenly throughout the platoon's area of operation. The platoon also may conduct 'base-camp' (Refer to FM 3-21.10 for more information.) or perimeter defense along with offense and patrolling against terrorist and insurgent forces.

468. As the platoon leader plans his defense, what order of events is generally followed?
- Reconnaissance and surveillance (R&S) operations and enemy preparatory fires.
  - Occupation and preparation.
  - Approach of the enemy main attack.
  - Enemy assault.
  - Counterattack.
  - Consolidation and reorganization.
469. What is the purpose of security forces during the preparation of the defense?
- Security forces must protect friendly main battle area forces in order to allow them to prepare their defense. These security forces work in conjunction with and complement company and battalion security operations. The enemy will try to discover the defensive scheme of maneuver using reconnaissance elements and attacks by forward detachments and disruption elements. It also tries to breach the platoon's tactical obstacles.
470. What are the security force's goals?
- The security force's goals normally include providing early warning, destroying enemy reconnaissance units, and impeding and harassing enemy assault elements. The security force continues its mission until directed to displace. The commander also may use security forces in his deception effort to give the illusion of strength in one area while establishing the main defense in another. While conducting this type of security operation, the Infantry platoon may simultaneously have to prepare battle positions, creating a challenging time-management problem for the commander and his subordinate leaders.
  - During this activity, the Infantry platoon might be required to provide guides to pass the security force and might be tasked to close the passage lanes. The platoon also may play a role in shaping the battlefield. The platoon leader may position the platoon to deny likely enemy attack corridors to enhance flexibility and force enemy elements into friendly engagement area. When it is not conducting security or preparation tasks, the platoon normally occupies hide positions to avoid possible CBRN strikes or enemy artillery preparation.
471. Why is a leader's reconnaissance critical during the preparation of the defense?
- A leader's reconnaissance is critical during this time in order for the platoon to conduct occupation without hesitation and begin the priorities of work. The participants in the reconnaissance are the platoon leader, platoon sergeant, and selected squad leaders, forward observer, RTO, and a security element. The goals are, but not limited to, identification of enemy avenues of approach,

engagement area, sectors of fire, the tentative obstacle plan, indirect fire plan, observation post, rally point and command post locations. Operational security is critical during the occupation to ensure the platoon avoids detection and maintains combat power for the actual defense. Soldiers, at all levels of the platoon, must thoroughly understand their duties and responsibilities related to the occupation; they must be able to execute the occupation quickly and efficiently to maximize the time available for planning and preparation of the defense.

472. When does the platoon engage the enemy during the defense?
- The platoon engages the enemy at a time and place where direct and indirect fire systems are maximized to achieve success within his designated area of operation. If available, as the enemy's assault force approaches the engagement area, the platoon may initiate CAS to weaken the enemy. Friendly forces occupy their actual defensive positions before the enemy reaches direct fire range and may shift positions in response to enemy actions or other tactical factors.
473. What occurs during the enemy assault?
- During an assault, the enemy deploys to achieve mass at a designated point, normally employing assault and support forces. This may leave him vulnerable to the combined effects of indirect and direct fires and integrated obstacles. The enemy may employ additional forces to fix friendly elements and prevent their repositioning. Friendly counterattack forces might be committed against the enemy flank or rear, while other friendly forces may displace to alternate, supplementary, or subsequent positions in support of the commander's scheme of maneuver. All friendly forces should be prepared for the enemy to maximize employment of combat multipliers to create vulnerabilities. The enemy also is likely to use artillery, CAS, and CBRN weapons to set the conditions for the assault.
  - The platoon engages the enemy. Squad leaders and team leaders control their Soldiers' direct fires. Destroyed vital positions are reoccupied. Soldiers move to alternate positions if the primary positions become untenable. Casualties are evacuated. Mines, indirect fires to include mortars are fired. Javelins and other direct fire weapons target the enemy's support positions.
  - Under limited visibility, selected mortars and field artillery units initially may fire infrared illumination if the enemy has not identified the defenders' positions. Once the platoon engages the enemy from its primary positions, regular illumination is used. If the platoon has overhead cover and the enemy penetrates the tactical wire, fires may include variable timed fuzed HE.
  - When required, final protective fires are initiated. Indirect fire systems to include field artillery and heavy mortars; join in firing their final protective fires concentrations until ordered to cease-fire or have exhausted their ammunition. Medium machine guns fire along their final protective lines (FPL). Soldiers fire to the flank to provide mutual support.
  - Soldiers are resupplied with ammunition, and casualties evacuated.
474. When is a good time to conduct a counterattack? Why is a counterattack conducted?

- a. As the enemy's momentum slows or stops, friendly forces may conduct a counterattack. The counterattack might be for offensive purposes to seize the initiative from the enemy. In some cases, the purpose of the counterattack is mainly defensive such as reestablishing a position or restoring control of the sector. The Infantry platoon may participate in the counterattack as a base-of-fire element providing support by fire for the counterattack force or as the actual counterattack force.
- 475. How does the platoon secure a defensive area?
  - a. The platoon secures its defensive area by repositioning forces, destroying remaining enemy elements, processing EPW, and reestablishing obstacles. The platoon conducts all necessary sustainment functions as it prepares to continue the defense. Even when enemy forces are not actively engaging it, the platoon maintains awareness of the tactical situation and local security at all times. The platoon prepares itself for possible follow-on missions.
- 476. How does the leader control defensive tasks?
  - a. The leader controls defensive tasks by using control measures to provide the flexibility needed to respond to changes in the situation and allow the defending leader to concentrate combat power at the decisive point. Defensive control measures within the leader's area of operation include designating the security area, the battle handover line (BHL), the main battle area with its associated forward edge of the battle area, and echelon support area. The leader can use battle positions and additional direct fire control and fire support coordination measures in addition to those control measures to synchronize the employment of combat power. The leader designates disengagement lines to trigger the displacement of subordinate forces.
- 477. What is a battle handover line?
  - a. The BHL is a designated phase line on the ground where responsibility transitions from the stationary force to the moving force and vice versa
- 478. What is the definition of a battle position?
  - a. A battle position is a defensive location oriented on a likely enemy avenue of approach. Units as large as battalion task forces and as small as squads or sections use battle positions. They may occupy the topographical crest of a hill, a forward slope, a reverse slope, or a combination of all areas. The leader selects his positions based on terrain, enemy capabilities, and friendly capabilities. A leader can assign all or some subordinates battle positions within the area of operation.
- 479. What are the types of battle positions?
  - a. Primary.
  - b. Alternate.
  - c. Supplementary.
  - d. Subsequent.
  - e. Strongpoint.
- 480. What are alternate defensive positions?

- a. Alternate positions are those assigned when the primary position becomes untenable or unsuitable for carrying out the assigned task. (See figure 3-7.) These positions allow the defender to carry out his original task. The following considerations apply for an alternate battle position:
  - b. It covers the same avenue of approach or sector of fire as the primary battle position.
  - c. It is located slightly to the front, flank, or rear of the primary battle position.
  - d. It may be positioned forward of the primary battle position during limited visibility operations.
  - e. It is employed to supplement or support positions with weapons of limited range, such as dismounted positions.
- 481. What is a supplementary defensive position?
  - a. A supplementary position is a defensive position located within a unit's assigned area of operation providing sectors of fire and defensible terrain along an avenue of approach not the enemy's expected avenue of attack. (See figure 3-7.) For example, an avenue of approach into a company's area of operation from one of its flanks could require the company to direct its platoons to establish supplementary positions to allow the platoons to engage enemy forces traveling along an avenue. The platoon leader formally assigns supplementary positions when the platoon must cover more than one avenue of approach.
- 482. What are subsequent defensive positions?
  - a. Subsequent positions are those to which the unit expects to move during the course of the battle. A defending unit may have a series of subsequent positions. (See figure 3-7.) Subsequent positions also can have primary, alternate, and supplementary positions associated with them.
- 483. What is a strongpoint?
  - a. A strongpoint is a heavily fortified battle position tied to a natural or reinforcing obstacle to create an anchor for the defense or to deny the enemy decisive or key terrain. (See figure 3-8.) The mission to create and defend a strongpoint implies retention of terrain to stop or redirect enemy formations. Strongpoints require extensive time, engineer support, and Class IV resources to construct.
- 484. What does it mean to canalize enemy forces? What does it mean to contain enemy forces?
  - a. Canalize enemy forces. Canalize is a mission task in which the leader restricts enemy movement to a narrow zone by exploiting terrain coupled with the use of obstacles, fires, or friendly maneuver. Contain enemy forces. Contain is a mission task requiring the leader to stop, to hold, or to surround enemy forces or to cause them to center their activity on a given front and prevent them from withdrawing any part of forces for use elsewhere.
- 485. What is the forward edge of the battle area?
  - a. The forward edge of the battle area is the foremost limits of a series of areas in which ground combat units are deployed, excluding the areas in which the covering or screening forces are operating, designated to coordinate fire support, the positioning of forces, or the maneuver of units.

486. What is the main battle area?
- The main battle area is the area in a defense where the leader intends to deploy the bulk of the unit's combat power and conduct decisive operations to defeat an attacking enemy. The defending leader's major advantage is the ability to select the ground on which the battle takes place. The defender positions subordinate forces in mutually supporting positions in-depth to absorb enemy penetrations or canalize them into prepared engagement area, defeating the enemy's attack by concentrating the effects of overwhelming combat power. The natural defensive strength of positions determines the distribution of forces in relation to both frontage and depth. In addition, defending units typically employ field fortifications and obstacles to improve the terrain's natural defensive strength. The main battle area also includes the area where the defending force creates an opportunity to deliver a decisive counterattack to defeat or destroy the enemy.
487. What are the steps for establishing a defense?
- Usually as part of a larger force, the Infantry platoon conducts the defense performing several integrated and overlapping activities. As in the offense, this section divides execution into five steps for discussion purposes. These steps are—
  - Gain and maintain enemy contact.
  - Disrupt the enemy.
  - Fix the enemy.
  - Maneuver.
  - Follow through/counterattack.
488. What is vital for success of defensive operations?
- Gaining and maintaining enemy contact in the face of the enemy's determined efforts to destroy friendly reconnaissance assets is vital to the success of the defense. As the enemy's attack begins, the defending unit's first concerns are to identify committed enemy units' positions and capabilities, determine the enemy's intent and direction of attack, and gain time to react. The platoon leader uses the information available to him, in conjunction with military judgment, to determine the point at which the enemy commits to a COA.
489. What is the benefit of early detection of an enemy's decisive operation?
- Early detection of the enemy's decisive operation provides the leader with reaction time to adjust the fixing force's positions and shape the enemy penetration, which, in turn, provides the time necessary to commit the striking force. The striking force leader requires as close to real-time updates of enemy situation as possible to ensure the striking force engages the enemy at the right location and time.
490. How does a leader execute shaping operations?
- The leader executes shaping operations to disrupt the enemy regardless of enemy's location within the area of operation. After making contact with the enemy, the leader seeks to disrupt the enemy's plan, ability to control forces, and the combined arms team. Ideally, the results of leader's shaping operations should force a disorganized enemy, whose ability to synchronize its elements has

been degraded, to conduct movement to contact against prepared defenses. Once the process of disrupting the attacking enemy begins, it continues throughout the defense. Whenever possible the leader sequences these shaping operations, to include enemy command and control warfare, so the impact of effects coincides with the commitment of the striking force. Generating a tempo temporarily paralyzes enemy command and control, the intensity of these shaping operations may increase dramatically on the commitment of the striking force. The leader continues to conduct shaping operations once the striking force commits to prevent enemy forces from outside the operational area from interfering with executing the decisive counterattack.

491. What is something the leader should try to accomplish while conducting an area defense?
- When conducting an area defense, the leader does everything possible to limit the options available to the enemy. In addition to disrupting the enemy, the leader conducts shaping operations to constrain the enemy into a specific COA, control enemy movements, or fix the enemy in a given location. These actions limit the enemy's options. While executing these operations, the leader continues to find, and to delay or to eliminate enemy follow-on reserve forces to keep them from entering the main battle area. The leader has several options to help fix an attacking enemy force. The leader can design shaping operations, such as securing the flanks and point of a penetration, to fix the enemy and to allow friendly forces to execute decisive maneuver elsewhere.
492. What does the leader use to limit the enemy's tactical options?
- The leader uses obstacles covered by fire to fix, to turn, to block, or to disrupt to limit the enemy's available options. Properly executed obstacles are a result of synthesis of top-down and bottom-up obstacle planning and emplacement. Blocking forces also can affect enemy movement. A blocking force may achieve its mission from a variety of positions depending on METT-TC.
493. Where does the decisive operation occur during the defense?
- During the defense, the decisive operation occurs in the main battle area. This is where the effects of shaping operations, coupled with sustaining operations, combine with the decisive operations of the main battle area force to defeat the enemy. The leader's goal is to prevent the enemy's increased advance through a combination of fires from prepared positions, obstacles, and possible counterattack.
494. What is critical in establishing the conditions ideal for counterattacking?
- Situational understanding is critical in establishing the conditions initiating the striking force's movement and in determining the general area serving as a focus for counterattacking. It includes identifying those points in time and space where the counterattack proves decisive. A force-oriented objective or an engagement area usually indicates the decisive point.
495. What is the purpose of the defense? How does the area defense accomplish this purpose?

- a. The purpose of the defense is to retain terrain and create conditions for a counteroffensive regaining the initiative. The area defense does this by causing the enemy to sustain unacceptable losses short of all decisive objectives. An area defense allows the leader transition to an attack. An area defense also could result in a stalemate with both forces left in contact with each other. Finally, it could result in the defender being overcome by the enemy attack and needing to transition to a retrograde. All decisions to withdraw must take into account the current situation in adjacent defensive areas. Only the leader who ordered the defense can designate a new forward edge of the battle area or authorize a retrograde.
496. What is the intent of the defense?
- a. The intent of the defense is creating the opportunity to transition to the offense. In a mobile defense, a transitional opportunity generally results from the success of the striking force's attack. The leader exploits success and attempts to establish conditions for a pursuit if the result of the leader's assessment of the striking force's attack shows there are opportunities for future offensive missions. If the conduct of the mobile defense is unsuccessful and enemy retains the initiative, the leader must either reestablish a viable defense or conduct a retrograde.
497. What is the method of controlling the preparation and conduct of the defense?
- a. Priority of work is a set method of controlling the preparation and conduct of a defense. Tactical SOPs should describe priority of work including individual duties. The platoon leader changes priorities based on the situation. All leaders in the platoon should have a specific priority of work for their duty position. Although listed in sequence, several tasks are performed at the same time.
498. What is an example of a priority of work sequence?
- a. Post local security. Position and assign sectors of fire for each BFV or ICV. Establish the platoons reconnaissance and surveillance. Position Javelins, machine guns, and Soldiers; assign sectors of fire. Position other assets (platoon command post). Designate final protective lines and final protective fires. Clear fields of fire and prepare range cards and area of operations sketches. Adjust indirect fire final protective fires. The firing unit fire direction center should provide a safety box clearing of all friendly units before firing adjusting rounds. Prepare fighting positions. Install wire communications, if applicable. Emplace obstacles and mines. Mark (or improve marking for) target reference points and direct fire-control measures. Improve primary fighting positions such as overhead cover. Prepare alternate and supplementary positions. Establish sleep and rest plan. Reconnoiter movements. Rehearse engagements and disengagements or displacements. Adjust positions and control measures as required. Stockpile ammunition, food, and water. Dig trenches between positions. Reconnoiter routes. Continue to improve positions.
499. Many duties can be delegated to subordinates, but the platoon leader ensures they are done. What are some of these duties?
- a. Ensuring local security and assigning observation post responsibility.

- b. Conducting a leader's reconnaissance with the platoon sergeant and selected personnel.
  - c. Confirming or denying significant deductions or assumptions from the mission analysis.
  - d. Confirming the direct fire plan, to include engagement area, sectors of fire, position essential weapons, and fire control measures.
  - e. Designating primary, alternate, supplementary, and subsequent positions supporting the direct fire plan, for platoons, sections, and supporting elements.
  - f. Requiring squads to conduct coordination. Integrating indirect fire plan and obstacles to support the direct fire plan.
  - g. Designating the general platoon command post location, and positioning essential weapons.
  - h. Checking the platoon command post and briefing the platoon sergeant on the situation and logistics requirements.
  - i. Upon receipt of the squads' area of operations sketches, makes two copies of the platoon defensive area of operations sketch and fire plan, retaining one copy and forwarding the other copy to the company. (See figure 3-9, page 3-24.)
  - j. Confirming the direct fire plan and squad positions before digging starts. Coordinating with the left and right units. Checking with the company commander for all changes or updates in the orders. Finishing the security, deception, counterattack, and obstacle plans. Walking the platoon positions after they are dug. Confirming clear fields of fire and complete coverage of the platoon's entire area of operations by all essential weapons. Looking at the defensive plan from an enemy point of view, conceptually and physically. Checking dissemination of information, interlocking fires, and dead space. Ensuring immediate correction of deficiencies. Ensuring rehearsals are conducted and obstacle locations reported.
500. What is the role of the platoon sergeant in the defense?
- a. Establishing the platoon command post and ensures wire communications link the platoon, squads, and attached elements, if applicable.
  - b. Establishing casualty collection points, platoon logistics release points, and detainee collection points, and locating company level points.
  - c. Briefing squad leaders on the platoon command post location, logistics plan, and routes between positions.
  - d. Assisting the platoon leader with the sector of fire and area of operations sketch.
  - e. Requesting and allocating pioneer tools, barrier materiel, rations, water, and ammunition.
  - f. Walking the positions with the platoon leader. Supervising emplacement of squads, essential weapons, check range cards, and area of operations sketches.
  - g. Establishing routine security or alert plans, radio watch, and rest plans and briefing the platoon leader.
  - h. Supervising continuously and assisting the platoon leader with other duties as assigned.
  - i. Selecting slit trench location and ensuring it is properly marked.
501. What is the role of the squad leader in the defense?

- a. Emplaces local security.
  - b. Confirms positioning and assigned sectors of fire for his squad.
  - c. Confirms positioning and assigned sectors of fire for the CCMS and medium machine gun teams.
  - d. Positions and assigns sectors of fire for automatic rifleman, grenadiers, and riflemen.
  - e. Establishes command post and wire communications.
  - f. Confirms designate FPL and final protective fires.
  - g. Clears fields of fire and prepares range cards.
  - h. Prepares squad range card and area of operations sketches.
  - i. Digs fighting positions.
  - j. Establishes communication and coordination within the platoon, and adjacent units.
  - k. Coordinates with adjacent units. Reviews sector of fire and area of operations sketches.
  - l. Emplaces antitank and Claymores, then wire and other obstacles.
  - m. Marks or improves marking for target reference points and other fire control measures.
  - n. Improves primary fighting positions and adds overhead cover (stage 2).
  - o. Prepares supplementary and alternate positions (same procedure as the primary position).
  - p. Establishes sleep and rest plans.
  - q. Distributes and stockpiles ammunition, food, and water.
  - r. Digs trenches to connect positions.
  - s. Continues to improve positions, construct revetments, replace camouflage, and add to overhead cover.
502. The ultimate goal of adjacent unit coordination is to ensure unity of effort in accomplishment of the Infantry mission. What are items that adjacent units coordinate?
- a. Unit positions, including locations of vital leaders' call signs and frequencies.
  - b. Locations of observation posts and patrols.
  - c. Overlapping fires (to ensure direct fire responsibility is clearly defined).
  - d. Target reference points).
  - e. Alternate, supplementary, and subsequent battle positions.
  - f. Indirect fire information.
  - g. Obstacles (location and type).
  - h. Air defense considerations, if applicable.
  - i. Routes to be used during occupation and repositioning.
  - j. Sustainment considerations.
503. What is the purpose of coordination in the defense?
- a. In the defense, coordination ensures that units provide mutual support and interlocking fires. In most circumstances, the platoon leader conducts face-to-face coordination to facilitate understanding and to resolve issues effectively. However, when time is extremely limited, digital coordination may be the only means of sending and receiving this information. The platoon leader

should send and receive the following information using his radio or mission command system before conducting face-to-face coordination:

- b. Location of leaders.
  - c. Location of fighting positions.
  - d. Location of observation posts and withdrawal routes.
  - e. Location and types of obstacles.
  - f. Location, activities, and passage plan for scouts and other units forward of the platoon's position.
  - g. Platoon's digital sector sketch.
  - h. Location of all Soldiers and units operating in and around the platoon's area of operation.
504. What are techniques for establishing coordination between units?
- a. Current techniques for coordination hold true for units that are digitally equipped. If a digitized and a nondigitized unit are conducting adjacent unit coordination, face-to-face is the preferred method. The leader of the digitized unit has the option to enter pertinent information about the nondigitized unit into mission command systems for later reference. The digitally equipped platoon leader should show the adjacent unit leader his digital sector sketch. If face-to-face coordination is not possible, leaders share pertinent information by radio.
505. What is the purpose of security in the defense? What tools are available for the PL to increase security?
- a. Security in the defense includes all active and passive measures taken to avoid detection by the enemy, deceive the enemy, and deny enemy reconnaissance elements accurate information on friendly positions. The two primary tools available to the platoon leader are observation posts and patrols. In planning for the security in the defense, the platoon leader considers the military aspects of terrain: observation and fields of fire, avenues of approach, key terrain, obstacles and cover, and concealment. He uses his map to identify terrain that will protect the platoon from enemy observation and fires, while providing observation and fires into the engagement area. He uses intelligence updates to increase his situational understanding, reducing the possibility of the enemy striking at a time or in a place for which the platoon is unprepared.
506. What is the purpose of the observation post?
- a. An observation post provides the primary security in the defense. Observation posts provide early warning of impending enemy contact by reporting direction, distance, and size. It detects the enemy early and sends accurate reports to the platoon. The platoon leader establishes observation posts along the most likely enemy avenues of approach into the position or into the area of operation. Leaders ensure that observation posts (mounted or dismounted) have communication with the platoon.
507. What is the benefit of early detection?
- a. Early detection reduces the risk of the enemy overrunning the observation post. Observation post may be equipped with a Javelin command launch unit; class 1 unmanned aircraft system; seismic, acoustic, or frequency detecting sensors to

increase its ability to detect the enemy. They may receive infrared trip flares, infrared parachute flares, infrared M203 or M320 rounds, and even infrared mortar round support to illuminate the enemy. The platoon leader weighs the advantages and disadvantages of using infrared illumination when the enemy is known to have night vision devices that detect infrared light. Although infrared and thermal equipment within the platoon enables the platoon to see the observation post at a greater distance, the observation post should not be positioned outside the range of the platoon's small-arms weapons.

508. What do observation posts used to reduce the risk of fratricide?
- To further reduce the risk of fratricide, observation posts use GPS to navigate to the exit and entry point in the platoon's position. The platoon leader ensures he submits an observation post location to the company team commander to ensure a no fire area is established around each observation post position.
509. Do platoons conduct patrols in the defense? What is the purposes of conducting patrols in the defense?
- Platoons actively patrol in the defense. Patrols enhance the platoon's ability to fill gaps in security between observation posts. The platoon leader forwards his tentative patrol route to the commander to ensure they do not conflict with other elements within the company team. The commander forwards the entire company team's patrol routes to the task force. This allows the operations and intelligence staff officers to ensure all routes are coordinated for fratricide prevention and no gaps are present. The patrol leader may use a GPS to enhance his basic land navigational skills as he tracks his patrol's location on a map, compass, and pace count or odometer reading.
510. What should be done after a range card is completed?
- After a range card is completed, the position should be marked with ground stakes. This enables the vehicle or a replacement vehicle to reoccupy the position and to use the range card data. The steps in marking a vehicle position are staking the position and moving into position. Each are described below.
511. What is required to successfully plan a defensive task?
- Planning a defensive task is a complex effort requiring detailed planning and extensive coordination. In the defense, synchronizing the effects of the Infantry platoons and squads combat and supporting systems enables the platoon leader to apply overwhelming combat power against selected advancing enemy forces. This unhinges the enemy commander's plan and destroys his combined arms team. As an operation evolves, the Infantry leader knows a shift to decisive and shaping operations is a probability to press the fight and keep the enemy off balance. Warfighting functions provide the Infantry leader a means and structure for planning, preparing, and executing the defense. The following paragraphs discuss the synchronization and coordination of activities within each warfighting function critical to the success of the Infantry platoon and squad. This section also discusses urban and mountainous defensive planning considerations.
512. What is the first step for planning defensive tasks?

- a. The first step is the expression of the leader's vision of anticipated enemy actions integrated with the Infantry companies IPB. The Infantry battalion and company IPB should not differ significantly, giving the Infantry platoon and squad a clear understanding of how the Infantry battalion and company commanders envision the enemy fight and plan for the operation. The Infantry company commander and ColST refine the IPB to focus on the details of the operation in the company area of operation. The platoon leader refines his IPB to focus on the details of the mission in the Infantry platoon and squad area of operation. The Infantry battalion commander usually defines where and how the Infantry battalion will defeat or destroy the enemy. The Infantry company commander and platoon leader then defines how they envision how their units will execute their portion of the battalion fight.
513. What are considerations for weapon employment on the battlefield?
- a. Maneuver considerations employ direct fire weapons on the battlefield. In the defense, weapons positioning is critical to the Infantry platoon's and squad's success. Weapons positioning enables the platoon to mass fires at critical points on the battlefield and shift fires as necessary. The platoon leader exploits the strengths of his weapons systems while minimizing the platoon's exposure to enemy observation and fires.
514. What is an important component to success if a platoon or squad is designated a reserve role?
- a. If the platoon, or squad are designated in a reserve role positioning the reserve in a location where it can react to several contingency plans is vital to success. The platoon leader considers terrain, traffic of roads, potential engagement area, probable points of enemy penetrations, and commitment time. The Infantry battalion commander can have a single reserve under battalion control, or, if the terrain dictates, the Infantry company can designate its own reserves. The reserve should be positioned in a covered and concealed position. Information concerning the reserve may be considered EEFI and protected from enemy reconnaissance. The commander might choose to position his reserve forward initially to deceive the enemy, or to move the reserve occasionally to prevent it from being targeted by enemy indirect fires.
515. What is the purpose of dispersing positions laterally and in-depth?
- a. Dispersing positions laterally and in-depth helps to protect the force from enemy observation and fires. The positions are established in-depth, allowing sufficient maneuver space within each position to establish in-depth placement of weapons systems, and Infantry elements. Engagement areas are established to provide for the massing of fires at critical points on the battlefield. Sectors of fire are established to distribute and shift fires throughout the extent of the engagement area. Once the direct fire plan is determined, fighting positions are constructed in a manner to support the fire plan.
516. What is the purpose behind flank positions?
- a. Flank positions enable a defending force to fire on an attacking force moving parallel to the defender's forces. A flank position provides the defender with a

larger and more vulnerable target while leaving the attacker unsure of the defense location. Major considerations for employment of a flank position are the defender's ability to secure the flank and his ability to achieve surprise by remaining undetected. Fire control and fratricide avoidance measures are critical considerations in the employment of flank positions. (See appendix B of this publication for more information.)

517. What are the purposes of disengagement and displacement?
  - a. Disengagement and displacement allow the platoon to retain its flexibility and tactical agility in the defense. The ultimate goals of disengagement and displacement are to enable the platoon to avoid being fixed or decisively engaged by the enemy. The overarching factor in a displacement is to maintain a mobility advantage over the enemy.
518. What factors must the platoon leader consider in displacement planning?
  - a. The enemy situation, for example, an enemy attack with one company-size enemy unit might prevent the platoon from disengaging.
  - b. Disengagement criteria.
  - c. Availability of direct fire suppression that can support disengagement by suppressing or disrupting the enemy.
  - d. Availability of cover and concealment, indirect fires, and obscurants to assist disengagement.
  - e. Obstacle integration, including situational obstacles.
  - f. Positioning of forces on terrain that provides an advantage to the disengaging elements such as linear obstacles.
  - g. Identification of displacement routes and times when disengagement or displacement will take place. Routes and times are rehearsed.
  - h. The size of the friendly force that must be available to engage the enemy in support of the displacing unit.
519. Why are disengagement and displacement hard to accomplish?
  - a. While disengagement and displacement are valuable tactical tools, they can be extremely difficult to execute in the face of a rapidly moving enemy force. In fact, displacement in contact poses such great problems that the platoon leader thoroughly plans for it and rehearses displacement before conducting the defense. He then carefully evaluates the situation when displacement in contact becomes necessary to ensure it is feasible and does not result in unacceptable personnel or equipment losses.
520. What dictates the circumstances in which subordinate elements displace to alternate, supplementary, or subsequent positions?
  - a. Disengagement criteria dictate to subordinate elements the circumstances, in which they will displace to alternate, supplementary, or subsequent positions. The criteria are tied to an enemy action, such as an enemy unit advancing past a certain phase line. They also are linked to the friendly situation. For example, the criteria might depend on whether artillery or an overwatch element can engage the enemy. Unique disengagement criteria are developed during the planning process for each specific situation.

521. What must not happen when friendly forces disengage from a defensive position?
- The attacking enemy force must not be allowed to bring direct and indirect fires to bear on a disengaging friendly force. Direct fires from the base-of-fire element, employed to suppress or disrupt the enemy, are the most effective way to facilitate disengagement. The platoon may receive base of direct fire support from another element in the company, but in most cases, the platoon establishes its own base-of-fire element. Having an internal base of fire requires the platoon leader to sequence the displacement of his forces.
522. What is used when subordinate elements move to alternate positions?
- The platoon and subordinate squads use covered and concealed routes when moving to alternate, supplementary, or subsequent positions. Regardless of the degree of protection the route itself affords, the platoon and squads try to rehearse the movement prior to contact. Rehearsals increase the speed at which they can conduct the move and provide an added measure of security. The platoon leader makes a concerted effort to allocate available time to rehearse movement in limited visibility and degraded conditions.
523. How can indirect fire platforms help the platoon during disengagement?
- Artillery or mortar fires assist the platoon during disengagement. Suppressive fires slow the enemy and cause him to seek cover. Smoke obscures the enemy's vision, slows his progress, or screens the defender's movement out of the battle position or along his displacement route.
524. What is integrated with direct and indirect fires during displacement?
- Obstacles are integrated with direct and indirect fires. By slowing and disrupting enemy movement, obstacles provide the defender with the time necessary for displacement and allow friendly forces to employ direct and indirect fires against the enemy. The Modular Pack Mine System (MOPMS) also can be employed in support of the disengagement, to either block a key displacement route once the displacing unit has passed through it or close a lane through a tactical obstacle. The location of obstacles in support of disengagement depends on METT-TC. Ideally, an obstacle should be positioned far enough away from the defender that enemy elements could be engaged on the far side of the obstacle while keeping the defender out of range of the enemy's massed direct fires.
525. What do mobility operations on the defense ensure?
- Mobility operations in the defense ensure the ability to reposition forces, delay, and counterattack. Initially during defensive preparations, mobility operations focus on the ability to resupply, reposition, and conduct rearward and forward passage of forces, materiel, and equipment. Once defensive preparations are complete, the focus normally shifts to supporting the platoon reserve, local counterattacks, and the higher headquarters counterattack or reserve. Priorities set by the company may specify routes for improvement in support of such missions. Normally, most engineer assets go to survivability and countermobility. At a set time or trigger, engineers disengage from obstacle and survivability position construction and start preparing for focused mobility missions. The

platoon leader analyzes the scheme of maneuver, obstacle plan, and terrain to determine mobility requirements.

526. What are critical considerations for mobility operations in the defense?
- Lanes and gaps in the obstacle plan.
  - Lane closure plan and subunit responsibility.
  - Route reconnaissance, improvement, and maintenance.
527. How are obstacles used to maximize success in the defense?
- To succeed in the defense, the platoon leader integrates individual obstacles into direct and indirect fire plans, considering the intent for each obstacle group. (Refer to ATTP 3-90.4 for more information on countermobility in the defense.) Obstacles are normally constructed by engineers with help from the platoon.
  - In the defense, the platoon or squad uses obstacles to:
  - Slow the enemy's advance to give the platoon or squad more time to mass fires on him.
  - Protect defending units.
  - Canalize the enemy into places where he can easily be engaged.
  - Separate the enemy's tanks from his infantry.
  - Strengthen areas that are lightly defended.
528. What is the definition of obstacle intent?
- Obstacle intent includes the target and desired effect (clear task and purpose) and the relative location of the obstacle group. The purpose influences many aspects of the operation, from selecting and designing obstacle sites to conducting the defense. Normally, the company commander designates the purpose of an obstacle group. When employing obstacles, the leader considers the following principles:
  - Support the tactical plan. Obstacles supplement combat power, decrease the mobility of the enemy, and provide security for the platoon. While considering enemy avenues of approach, he also considers his own movement requirements, such as routes for resupply, withdrawal, counterattacks, patrols, and observation posts.
  - Tie in. He ties in his reinforcing obstacles with existing obstacles. He must also tie in the obstacle plan with his plans for fires.
  - Covered by observation and fire. He ensures that all obstacles are covered by observation and fire. This reduces the enemy's ability to remove or breach the obstacles and increases the possibilities of placing fire on the enemy when he encounters the obstacle.
  - Constructed in-depth. He emplaces obstacles so that each new obstacle encountered by the enemy attrites the enemy force and causes a desired and controlled reaction. Proper use of obstacles in-depth wears the enemy down and significantly increases the overall effect.
  - Employed for surprise. An obvious pattern of obstacles would divulge locations of units and weapons. Friendly forces must avoid readily discernable, repetitive patterns.

529. The company commander assigns obstacle groups, and tells the platoon leaders and engineers what he wants to do to the enemy, and then he resources the groups accordingly. Obstacle intent includes what elements?
- The target, which is the enemy force that the commander wants to affect with fires and tactical obstacles. The commander identifies the target's size, type, echelon, avenues of approach, or any combination of these.
  - The obstacle effect describes how the commander wants to attack enemy maneuver with obstacles and fires. Tactical obstacles block, turn, fix, or disrupt. Obstacle effect integrates the obstacles with direct and indirect fires.
  - The relative location is where the commander wants the obstacle effect to occur against the targeted enemy force. The commander initiates the obstacle integration process after identifying where on the terrain the obstacle will most decisively affect the enemy.
  - For example, the company commander might say, "Deny the enemy access to our flank by turning the northern, mechanized Infantry battalion into our engagement area. Allow companies B and C to mass their fires to destroy the enemy." Scatterable minefield systems and submunitions are the main means of constructing tactical obstacles. These systems, with their self- and command-destruct capabilities, are flexible, and they aid in rapid transitions between offensive and defensive tasks. They do this better than other constructed obstacles. The force constructs conventional minefields and obstacles only for a deliberate, long-term defense. In those cases, the company and platoons usually are augmented with assets from a divisional engineer battalion. Table 3-2 shows the symbols for each obstacle effect, and it describes the purpose and characteristics of each.
530. What element plans and builds protective obstacles?
- Infantry platoons plan and construct their own protective obstacles. For best effect, protective obstacles are tied into existing or tactical reinforcing obstacles. The platoon can use mines and wire, or it might receive additional materiel from company, Class IV or V supply point. The platoon also might conduct any other required coordination, such as needed in a relief in place, to recover or destroy the obstacle: In planning protective obstacles, the platoon leader evaluates the potential threat to the platoon's position. Then, employs the best system for that threat. Protective obstacles usually are located beyond hand grenade distance (40 to 100 meters) from the Soldier's fighting position, and may extend out 300 to 500 meters to tie into tactical obstacles and existing restricted terrain. As with tactical obstacles, the platoon leader should plan protective obstacles in-depth and try to maximize the range of his weapons.
  - When planning protective obstacles, the platoon leader considers preparation time, the burden on the logistical system, the Soldiers' loads, and the risk of loss of surprise.
531. What are the three types of wire obstacles? What are the uses for each?
- The three types of wire obstacles (see figure 3-11) are protective, tactical, and supplementary.

- b. Protective wire can be a complex obstacle providing all-around protection of a platoon perimeter. It also might be a simple wire obstacle on the likely dismounted avenue of approach into a squad ambush position. Command-detonated M18 Claymores can be integrated into the protective wire or used separately.
  - c. Tactical wire is positioned to increase the effectiveness of the platoon's fires. Usually, it is positioned along the friendly side of the medium machine gun FPL. Tactical minefields also may be integrated into these wire obstacles or used separately.
  - d. Supplementary wire obstacles can break up the line of tactical wire. This helps prevent the enemy from locating friendly weapons (particularly the medium machine guns) by following the tactical wire.
532. Who is responsible for marking lanes in obstacles?
- a. The platoon might be responsible for actions related to lanes through obstacles. These duties can include marking lanes in an obstacle, reporting locations of the start and ends of each lane, operating contact points, providing guides for elements passing through the obstacle, and closing the lane.
533. What is a situational obstacle? What are considerations for their implementation?
- a. A situational obstacle is planned and possibly prepared before a mission, but it executes only if specific criteria are met. It gives the platoon leader the flexibility to emplace tactical obstacles based on battlefield development—
  - b. The platoon leader anticipates situations that require maneuver and fire plan modifications to defeat the threat, and considers the use of situational obstacles to support these modifications.
  - c. By their very nature, situational obstacles must be quickly installable, but still achieve the desired effect. Therefore, scatterable mines (SCATMINES) such as MOPMS, Hornets, and Volcanoes are the most common versions used at the platoon level. However, situational obstacles can consist of any type of individual obstacle.
  - d. The platoon leader considers where he can employ situational obstacles. He ensures the combination of fires and obstacles are enough to achieve the obstacle effect.
  - e. The platoon leader identifies execution triggers; situational obstacles are triggered based on friendly actions, enemy actions, or a combination of both.
  - f. Finally, the platoon leader withholds execution of a situational obstacle until the obstacle effect is required. Once committed, those assets are no longer available to support any other mission. The platoon leader also considers that SCATMINES have a self-destruct time. Emplacing an obstacle too soon can cause the mines to self-destruct before the enemy arrives.
534. What does the PL never have regarding enemy forces?
- a. The Infantry platoon leader never has all the information needed about the enemy. Therefore, the platoon leader obtains or develops the best possible IPB products, conducts continuous reconnaissance, and integrates new and updated intelligence throughout the operation. He may need to request information

through the CoIST from the battalion staff to answer platoon information requirements.

535. What is a critical component of defensive planning?
- As with all tactical planning, IPB is a critical part of defensive planning. It helps the platoon leader define where to concentrate combat power, where to accept risk, and where to plan potential decisive operations. To aid in the development of a flexible defensive plan, the IPB must present all feasible enemy courses of action. The essential areas of focus are—
  - Analyze terrain and weather.
  - Determine enemy force size and likely courses of action with associated decision points.
  - Determine enemy vulnerabilities and high value targets.
  - Impact of civilian population on the defense.
  - The platoon leader, in coordination with the CoIST, base determinations of how and where to defeat the enemy on potential future enemy locations, the terrain, and forces available. The Infantry company may define a defeat mechanism including the use of single or multiple counterattacks to achieve success. The platoon leader analyzes the platoon's role in the Infantry company fight and determines how to achieve success.
536. What needs to happen for an indirect fire plan to be effective in the defense?
- For indirect fire plan to be effective in the defense, the Infantry platoon plans and executes fires in a manner, which achieves the intended task and purpose of each target. Indirect fires serve a variety of purposes in the defense, including the following:
  - Slow and disrupt enemy movement.
  - Prevent the enemy from executing breaching operations.
  - Destroy or delay enemy forces at obstacles using massed fires or precision munitions.
  - Disrupt enemy support-by-fire elements.
  - Defeat attacks along avenues of approach with the use of final protective fires.
  - Disrupt the enemy to enable friendly elements to disengage or conduct counterattacks.
  - Obscure enemy observation or screen friendly movement during disengagement and counterattacks.
  - Provide obscurants screens to separate enemy echelons or to silhouette enemy formations to facilitate direct fire engagement.
  - Provide illumination as necessary.
  - Execute suppression of enemy air defense missions to support aviation operations.
537. What actions does the PL take in developing the fire plan?
- In developing the fire plan, the platoon leader evaluates the indirect fire systems available to provide support. Considerations when developing the plan include tactical capabilities, weapons ranges, and available munitions. These factors help the platoon leader and forward observer determine the best method for

achieving the task and purpose for each target in the fire plan. The Infantry company fire support personnel contribute significantly to the platoon fight. Positioning is critical. The platoon leader, in coordination with the company fire support officer, selects positions providing his forward observer with unobstructed observation of the area of operation, ensuring survivability.

538. What does the PL's planning process include in addition to sustainment functions?
- a. In addition to the sustainment functions required for all missions, the platoon leader's planning process includes pre-positioning of ammunition caches, identifying the positioning of company trains, and Class IV and V supply points and mine dumps. The platoon leader's mission analysis may reveal the platoon's ammunition requirements during an upcoming mission exceed its basic load. This requires the platoon to coordinate with the company to preposition ammunition caches. The platoon usually positions ammunition caches at alternate or subsequent positions. The platoon also may dig in these caches and guard them to prevent their capture or destruction by the enemy. The Infantry company trains usually operate 500 to 1000 meters or one terrain feature to the rear of the company to provide immediate recovery and medical support. The company trains conduct evacuation (of those wounded in action [WIA], weapons, and equipment) and resupply as required. The company trains are located in covered and concealed positions close enough to the company to provide responsive support, but out of enemy direct fire. The company first sergeant or executive officer positions the trains and supervises sustainment operations with the platoon. It is the Infantry company commander's responsibility to ensure all subordinate units know the locations of battalion combat and field trains as well as the company CCP, BAS, and medical and casualty evacuation procedures. The platoon leader's analysis determines the measures for every mission.
539. Air and missile defense support to the platoon may be limited. What does this mean?
- a. Units should expect to use their organic weapons systems for self-defense against enemy air threats. Plan for CBRN reconnaissance at likely locations for enemy employment of CBRN agents and hazards. Use obscurants to support disengagement or movement of forces. Assign sectors of fire to prevent fratricide and friendly fire.
540. What does survivability construction include?
- a. Survivability construction includes fighting positions, protective positions, and hardening. These are prepared to protect vehicles, personnel and weapons systems. Positions can be constructed and reinforced with overhead cover to increase the survivability of dismounts and crew-served weapons against shrapnel from airbursts. Vehicle fighting positions can be constructed with both hull and turret-defilade observation positions. In addition, the Infantry platoon and squad may use digging assets for ammunition caches at alternate, supplementary, or subsequent positions. All leaders must understand survivability plans and priorities. Typically, at platoon level the engineer platoon leader creates a leader's card, which enables the platoon leader to track the survivability effort. One person in the platoon, usually the platoon sergeant is designated to enforce

the plan and priorities, and ensure the completion status is reported accurately, tracked, and disseminated down to subordinate squads and attachments.

541. Why do infantry forces defend urban areas?
- Infantry forces defend urban areas to defeat an attack, gain time, economize forces, protect infrastructure, protect a populace, and shape conditions for offensive or stability urban operations. Usually two or more purposes apply to urban defense tasks in urban terrain. Defensive urban operations provide leaders opportunities to turn the environment's characteristics to the advantage of Army forces. Urban areas are ideal for the defense and enhance the combat power of defending units.
542. What does the defender take advantage of in built up areas?
- In a built-up area, the defender takes advantage of inherent cover and concealment afforded by urban terrain. Restrictions to the attacker's ability to maneuver and observe are taken into consideration. By using the terrain and fighting from wellprepared and mutually supporting positions, a defending force can delay, block, fix, turn, disrupt, or destroy a much larger attacking force. The defense of a built-up area is organized around key terrain features, buildings, and areas that preserves the integrity of the defense and provide the defender ease of movement. The defender organizes and plans defensive missions by considering OAKOC, fire hazards, and communications restrictions.
543. The enemy will likely use tunnels and may have the advantage of marked routes and detailed reconnaissance. What does this mean for the defender?
- Because he is able to select ambush positions and withdrawal routes, the defender typically has the element of surprise. A defended position in an underground facility can be very effective in countering enemy subterranean operations. The best underground defensive positions are well protected and canalize the enemy into a killing zone to inflict maximum casualties.
544. What are considerations for moving through tunnels?
- When moving through tunnels, take great care to avoid booby traps. These are normally deployed near junctions and are often operated by tripwires. Standing water in tunnels provides excellent camouflage for antipersonnel mines and booby traps scattered on likely routes. With the battle above continuing, flooding and cave-ins are highly possible due to the likelihood of artillery barrages and the use of demolitions. Thus, identifying escape routes is essential.
545. What is a constant concern for soldiers operating in subterranean areas?
- Chemical defense is a constant concern for Soldiers conducting subterranean operations. In tunnels, Soldiers may encounter chemical warfare agents as well as industrial chemicals in dense concentrations. A chemical agent alarm system, carried by the point man, provides instantaneous warning of the presence of chemical warfare agents. M8 and M9 detection papers also test for the presence of chemical agents.
546. Why are defensive tasks conducted in mountainous areas?
- Defensive tasks in mountainous areas are conducted to resist, defeat, or destroy an enemy attack to support subsequent offensive tasks. Infantry leaders use the

defense to withstand an enemy attack while preparing to seize the initiative and develop conditions favorable for transitioning to the offense. During the defense, friendly forces withstand enemy attacks and hold the enemy while preparing to seize the initiative and transition to an attack or to conduct stability tasks. A thorough understanding of the commander's intent is especially critical in the defense, which demands precise integration of all combat power.

547. Forces operating in mountainous terrain often possess weapons and equipment more advanced in technology than the enemy does. Has this impacted enemy operations?
- Knowing this, enemy offensive tactics commonly involve short violent engagements followed by a hasty withdrawal through preplanned routes. They often strike quickly and fight only as long as the advantage of initial surprise is in their favor. Attacks may include direct fires, indirect fires, or IEDs and may be against stationary or moving forces.
548. What are considerations for tunnels and underground complexes?
- Tunnel and complexes may be interconnected with other tunnels and caves, concealed by trapdoors or blocked dirt passages that are up to three or four feet thick. Secret passages are usually known only to selected personnel and are used mainly in emergencies. Tunnels and caves may be interconnected by much longer passages through which relatively large bodies of men may be transferred from one area to another. The connectivity of these systems often allows the enemy to move unnoticed from one area to another, eluding friendly forces.
549. What are common characteristics of a typical tunnel or cave complex?
- Characteristic of a typical tunnel or cave complex is normally superb camouflage, conceal entrances, exits and camouflage bunkers. Within the tunnel and cave complex itself, side tunnels may be concealed, trapdoors are often hidden and dead-end tunnels or caves are used to confuse the attackers. Airshafts are usually spaced at intervals throughout a tunnel or cave system. In many instances, the first indication of a tunnel or cave complex comes from direct fire received from a concealed bunker. Spoils from the tunnel or cave system may be distributed over a wide area, giving clues to its existence.
550. What type of defense may be used behind linear obstacles? What are some examples of linear obstacles?
- A platoon leader may conduct either an area or mobile defense along or behind a linear obstacle. The Infantry leader normally prefers an area defense because it accepts less risk by not allowing the enemy to cross the obstacle. Linear obstacles such as mountain ranges or river lines generally favor a forward defense. It is extremely difficult to deploy in strength along the entire length of a linear obstacle. The defending leader must conduct economy of force measures in some areas.
551. What possibility is accepted by the leader when using defense in-depth within an area defense?
- Within an area defense, the leader's use of a defense in-depth accepts the possibility the enemy may force a crossing at a given point. The depth of the

defense should prevent the enemy from rapidly exploiting its success. It also defuses the enemy's combat power by forcing the enemy to contain bypassed friendly defensive positions in addition to continuing to attack positions in greater depth. This form of defense may be used when defensible terrain is available in the forward portion of the platoon's area of operation, or to take advantage of a major linear natural obstacle. It also is used when the enemy is mainly Infantry; the platoon conducts a security mission such as counter infiltration, or as directed by company. This technique allows interlocking and overlapping observation and fields of fire across the platoon's front. (See figure 3-12.) The bulk of the platoon's combat power is well forward. Sufficient resources must be available to provide adequate combat power to detect and stop an attack. The platoon relies on fighting from well-prepared mutually supporting positions. It uses a high volume of direct and indirect fires to stop the attacks. The main concern when fighting this form of defense is the lack of flexibility and the difficulty of both seizing the initiative and seeking out enemy weaknesses. Obstacles, indirect fires, and contingency plans are vital to this maneuver. The platoon depends upon surprise, well-prepared positions, and deadly accurate fires to defeat the enemy. The reserve is usually small, perhaps a squad.

552. What are minefields covered by? How can engaging enemies a long range aid your defensive operations?
- a. Minefields and other obstacles are positioned and covered by fire to slow the enemy and inflict casualties. Engaging the enemy at long range by supporting fires (CAS, attack helicopters, and field artillery) disrupts the momentum of his the attack. Use fires from mortars, machine guns, and small arms as he comes into range. If the defense is penetrated, block the advance with the reserve and shift fire from the forward squads onto the enemy flanks. Then, counterattack with the platoon reserve or the least committed squad with intense fires. The purpose is to destroy isolated or weakened enemy forces and regain key terrain.
553. What is critical when denying the enemy the forward positions of friendly forces?
- a. The counterreconnaissance effort is critical when fighting to deny the enemy the locations of the platoon's forward positions. If the enemy locates the forward positions, he will concentrate combat power where he desires while fixing the rest of the platoon to prevent their maneuver to disrupt his attack. This effort might be enhanced by initially occupying and fighting from alternate positions forward of the primary positions. This tactic enhances the security mission and deceives the enemy reconnaissance that may get through the security force.
554. What is an option for the PL when conducting an area or mobile defense?
- a. The platoon leader can employ the perimeter defense as an option when conducting an area or mobile defense. A perimeter defense is a defense oriented in all directions. (See figure 3-13, page 3-44.) The Infantry platoon uses it for self-security, and to protect other units located within the perimeter. The platoon can employ a perimeter defense in urban or woodland terrain. The platoon might be called upon to execute the perimeter defense under a variety of conditions, including:

- b. When it must secure itself against terrorist or insurgent attacks in an urban area.
  - c. This technique also may apply if the platoon must conserve or build combat power in order to execute offensive tasks or patrolling missions.
  - d. When it must hold critical terrain in areas where the defense is not tied in with adjacent units.
  - e. When it has been bypassed and isolated by the enemy and must defend in place.
  - f. When it conducts occupation of an independent assembly area or reserve position.
  - g. When it begins preparation of a strongpoint.
  - h. When it is directed to concentrate fires into two or more adjacent avenues of approach
555. What actions are taken to set up a perimeter defense?
- a. The Infantry platoon prepares a perimeter defense when there are no friendly units adjacent to it. A perimeter defense might be used in a reserve position, in an AA or patrol base, on a follow-on decentralized platoon operation during resupply or when the platoon is isolated. The following actions constitute setting up a perimeter defense:
  - b. Preparing a perimeter defense is like preparing any other position defense, but the platoon must disperse in a circular configuration for all-round security. (The actual shape depends on the terrain.) The platoon must be prepared to defend in all directions.
  - c. The platoon leader assigns squads to cover the most likely approach, and prepares alternate and supplementary positions within the perimeter.
  - d. Javelins cover likely armor approaches.
  - e. They may use hide positions and move forward to fire as the enemy appears. The platoon leader assigns several firing positions. If there are few positions for them, they are assigned a primary position and are dug in.
  - f. Snipers or designated marksmen should cover likely or suspected enemy positions or observation posts.
  - g. Snipers and designated marksmen also should be used to observe or overwatch areas where civilians congregate.
  - h. Keep attached mortars near the center of the perimeter so their minimum range does not restrict their ability to fire in any direction.
  - i. They should dig in and have covered ammunition storage bunkers.
  - j. If possible, hold one or more rifle team in reserve.
  - k. The platoon leader assigns a primary position to the rear of the platoon, covering the most dangerous avenues of approach, and may assign the rifle squad supplementary positions since the platoon is prepared to fight in all directions.
  - l. Prepare obstacles in-depth around the perimeter.
  - m. Plan direct and indirect fire as for any type of defense.
  - n. Plan and use direct and indirect fire support from outside the perimeter when available.

- o. Counter enemy probing attacks by area fire weapons (artillery, mortars, claymores, and grenade launchers) to avoid revealing the locations of fighting positions (rules of engagement-dependent).
  - p. If the enemy penetrates the perimeter, the reserve destroys, and then blocks the penetration.
  - q. It also covers friendly Soldiers during movement to alternate, supplementary, or subsequent positions.
  - r. Even though the platoon's counterattack ability is limited, it must strive to restore its perimeter.
  - s. Sustainment elements may support from within the perimeter or from another position.
  - t. Supply and evacuation might be by air. Consider the availability of landing zones and drop zones (protected from enemy observation and fire) when selecting and preparing the position.
556. What are the characteristics of the Y-shaped perimeter defense?
- a. The Y-shaped perimeter defense is a variation of the perimeter defense that uses the terrain effectively. This defense is used when the terrain, cover and concealment, or fields of fire do not support the physical positioning of the squads in a circular manner. The Y-shaped perimeter defense is so named because the squad's battle positions are positioned on three different axes radiating from one central point. (See figure 3-14, page 3-46.) It is still a perimeter defense because it is effective against an attack from any direction. The Y-shaped defense provides all-round perimeter fires without having to position Soldiers on the perimeter. It is likely to be most effective in mountainous terrain, but it also may be used in a dense jungle environment due to limited fields of fire. All of the fundamentals of a perimeter defense previously discussed apply, with the following adjustments and special considerations:
  - b. Although each squad battle position has a primary orientation for its fires, each squad must be prepared to reorient to mass fires into the engagement areas to its rear.
  - c. When no most likely enemy approach is identified, or in limited visibility, each squad may have half its Soldiers oriented into the engagement areas to the front and half into the engagement areas to the rear. Ideally, supplementary individual fighting positions are prepared, allowing Soldiers to reposition when required to mass fires into one engagement area.
  - d. When a most likely enemy avenue of approach is identified, the platoon leader may adjust the normal platoon orientations to concentrate fires (see figure 3-15) for the following reasons:
    - e. This entails accepting risk in another area of the perimeter.
    - f. The platoon security plan should compensate for this with additional observation posts, patrols, or other measures.
    - g. The positioning of the platoon command post, reserve, or any sustainment assets is much more difficult due to a lack of depth within the perimeter.
557. What is the most difficult aspect of the Y-shape defense?

- a. The most difficult aspect of the Y-shape perimeter defense is the fire control measures required. To fight this defense without casualties from friendly fire, the leaders must ensure the limits of fire for each weapon do not allow fires into the adjacent squad positions. In a mountainous environment, firing downward into the engagement area may make this simpler. Some measures to consider include:
  - b. Position medium machine guns near the apex of the "Y" to allow a final protective line that covers the platoon front while firing away from the adjacent units.
  - c. Cover the areas of the engagement areas closest to the apex with Claymores, nonpersistent mines, or obstacles to reduce the need for direct fires in these areas.
  - d. Identify those positions at most risk to friendly fires and prepare the fighting position to protect the Soldier from fires in this direction.
  - e. The loss of one squad position may threaten the loss of the entire platoon. To prevent this, plan and rehearse immediate counterattacks with a reserve or the least committed platoon.
  - f. Consider allowing the enemy to penetrate well into the engagement areas and destroy him as in an ambush.
  - g. Be aware that if a Y-shape defense is established on the prominent terrain feature and the enemy has the ability to mass fires, he may fix the platoon with direct fires and destroy it with massed indirect fires.
558. What is an alternative to defending the forward slope of a hill?
- a. An alternative to defending on the forward slope of a hill or a ridge is to defend on a reverse slope. (See figure 3-16.) In such a defense, the Infantry platoon is deployed on terrain that is masked from enemy direct fire and ground observation by the crest of a hill. Although some units and weapons might be positioned on the forward slope, the crest, or the counter-slope (a forward slope of a hill to the rear of a reverse slope), most forces are on the reverse slope. The key to this defense is control the crest by direct fire.
559. What are factors to consider when planning a defense on a reverse slope?
- a. Planning fundamentals to a defense on a reverse slope include:
  - b. Positioning forward squads so they block enemy approaches and exploit existing obstacles. Plans should—
  - c. Permit surprise fire on the crest and on the approaches around the crest.
  - d. Have rear and overhead cover to protect friendly Soldiers from fratricide while in forward fighting positions.
  - e. Positioning observation posts, on the crest or the forward slope of the defended hill. Plans should—
  - f. Increase observation posts and patrols to prevent infiltration at night.
  - g. Consider attaching medium machine guns to observation posts.
  - h. Positioning the squad in-depth or reserve where it can provide the most flexibility, support the forward squads by fire, protect the flanks and the rear of the platoon, and counterattack, if necessary.

- i. It might be positioned on the counterslope to the rear of the forward squad if that position allows it to fire and hit the enemy when he reaches the crest of the defended hill.
  - j. Positioning the platoon command post to the rear where it will not interfere with the reserve or supporting units.
  - k. Plans should consider that—
    - l. The platoon leader may have an observation post on the forward slope or crest and another on the reverse slope or counterslope.
  - m. The observation post is used on the forward slope or crest before the battle starts when the platoon leader is determining the enemy's intentions.
  - n. During the fight, he moves the observation post on the reverse slope or counterslope.
  - o. Planning indirect fire well forward of, on, and to the flanks of the forward slope, crest, reverse slope, and counterslope.
  - p. Planning direct final protective fires on the crest of the hill to control the crest and stop assaults.
  - q. Reinforcing existing obstacles.
  - r. Knowing that protective obstacles on the reverse slope just down from the crest where it can be covered by fire can slow the enemy's advance and hold him under friendly fire.
  - s. Knowing that the platoon leader normally plans for counterattacks and plans to drive the enemy off the crest by fire, if possible.
  - t. Knowing that the platoon leader is prepared to drive the enemy off by fire and movement.
560. When can the infantry leader adopt a reverse slope position?
- a. The Infantry leader can adopt a reverse slope position when—
  - b. Enemy fire makes the forward slope untenable.
  - c. Lack of cover and concealment on the forward slope makes it untenable.
  - d. The forward slope has been lost or not yet been gained.
  - e. The forward slope is exposed to enemy direct fire weapons fired from beyond the effective range of the defender's weapons. Moving to the reverse slope removes the attacker's standoff advantage.
  - f. The terrain on the reverse slope provides better fields of fire than the forward slope.
  - g. Surprising and deceiving the enemy as to the true location of the Infantry platoon's defensive positions is essential.
  - h. Enemy weapons systems have overmatch in range and lethality
561. What is emphasized when executing a reverse slope defense?
- a. When executing a reverse slope defense, the leader places special emphasis on—
  - b. A direct and indirect fire support plan to prevent the enemy's occupation and using crest of the hill.

- c. The use of observation posts or reconnaissance elements on the forward slope to provide observation across the entire front and security to the main battle positions.
  - d. A counterattack plan specifying measures necessary to clear the crest or regain it from the enemy. Direct and indirect fire support to destroy, disrupt, and attrition of enemy forces on the forward slope.
  - e. The forward edge of positions should be within small arms range of the crest. It should be far enough from the crest, which fields of fire, allow the defender time to place well-aimed fire on the enemy before he reaches friendly positions. The platoon establishes observation posts on or forward of the topographical crest. This allows long-range observation over the entire front and indirect fire coverage of forward obstacles. Observation posts usually are provided by the unit owning the terrain being observed, and may vary in size from a few Soldiers to a reinforced squad. They should include forward observers. At night, their number should be increased to improve security.
562. What are other considerations leaders may apply when defending a reverse slope?
- a. These are some considerations leaders may apply when defending on a reverse slope:
  - b. Observation of the enemy is more difficult.
  - c. Soldiers in this position see forward no farther than the crest. This makes it hard to determine exactly where the enemy is as he advances, especially when visibility is poor.
  - d. Observation posts must be placed forward of the topographic crest for early warning and long-range observation.
  - e. Egress from the position might be more difficult.
  - f. Fields of fire are usually short.
  - g. Obstacles on the forward slope can be covered only with indirect fire or by units on the flanks of the company unless some weapons systems are placed forward initially.
  - h. If the enemy gains the crest, he can assault downhill. This may give him a psychological advantage.
  - i. If observation posts are insufficient or improperly placed, the defenders might have to fight an enemy who suddenly appears in strength at close range.
  - j. A reverse slope engagement is decisive resulting in one or both forces being severely attrited. Very difficult to break contact.
  - k. Placing the vehicles at the bottom of the hill and the Infantry on counter slope allows the platoon to maximize its firepower into the engagement area as the enemy crests the slope.
  - l. The defender often has the opportunity to take the first shot at the attacker.
563. How to fighting positions protect soldiers?
- a. Fighting positions protect Soldiers by providing cover from direct and indirect fires and concealment through positioning and proper camouflage. Because the battlefield conditions confronting Soldiers are never standard, no single standard fighting position design fits all tactical situations.

564. How are vehicles hidden to increase survivability?
- Vehicles use natural cover and concealment in hide positions initially to increase survivability. As time, assets, and situations permit, positions are prepared using organic excavation equipment or engineer support. Priority is given to those vehicles containing essential equipment or supplies. Crews use these fighting positions for individual protection as well. Parapets positioned at the front of or around major weapon systems provide improved protection from direct fire and from blast and fragments of indirect fire, artillery, mortar, and rocket shells. At its base, the parapet should be at least 8 feet thick. The parapet functions as a standoff barrier for impact-detonating direct fire high explosive antitank and ATGM projectiles. The parapet should cause the fuzes to activate, thereby increasing survivability for the protected vehicles. If the enemy uses kinetic energy, direct fire armorpiercing, or hypervelocity projectiles, it is impractical to construct parapets thick enough for protection. To protect against these projectiles, deep-cut, hull defilade, or turret defilade positions are prepared. Fighting and protective positions for essential vehicles should be constructed no larger than needed. Success in the area of operation requires maneuver between fighting positions between main gun firings. Maximum use of terrain is required to conceal fighting vehicles maneuvering between fighting positions. After a major weapon system fires its main gun, the vehicle should move concealed to another position before firing again. If the major weapon system immediately reappears in the old position, the enemy knows where to fire his next round.
565. What are characteristics of hasty fighting positions for combat vehicles?
- Hasty fighting positions for combat vehicles, to include armored personnel carriers and mortar carriers, take advantage of natural terrain features. These positions are prepared with at least construction effort. A frontal parapet, as high as practical without interfering with the vehicle's weapon systems, shields the position from frontal attack and provides limited concealment if properly camouflaged. Protection is improved if the position is made deeper and the parapet extended around the vehicle's sides. Parapets provide a false sense of security against kinetic energy and hypervelocity projectiles; therefore, hasty vehicle fighting positions with parapets are not recommended for vehicles. Hasty fighting positions offer protection from HE antitank projectiles and provide limited concealment if properly camouflaged. As the tactical situation permits, hasty positions are improved to deliberate positions.
566. What must deliberate fighting positions accomplish?
- Deliberate fighting positions must protect a vehicle from kinetic energy and hypervelocity projectiles. The position is constructed in four parts: hull defilade, concealed access ramp or route, hide location, and turret defilade.
567. What positions best serve as fighting positions?
- Positions formed by natural terrain are usually best because they are easy to modify. If preparation is necessary, extensive engineer support is required. Each position is camouflaged with either natural vegetation or a camouflage net, and the spoil is flattened out or hauled away. All fighting positions for fighting vehicles

(tanks and BFVs) are planned as deliberate positions. Since the lack of time usually does not allow full construction of a deliberate position, only some parts of the position are prepared. For example, the complete fighting position for a BFV requires the construction of a hull defilade, turret defilade, concealed access ramp or route, and hides location all within the same position. The maneuver team commander uses organic and engineer earthmoving assets and usually constructs part of the fighting position.

568. What is not practical to build when building fighting positions?
- Digging hide locations and concealed routes between fighting positions is normally not practical due to the lack of engineer assets and time. Engineer assets are used to dig the hull and turret defilade positions. The ramps and concealed routes require only partial clearing and leveling with blade tanks or engineer equipment because natural concealed routes and hide locations are used. If time permits, the commander expands the fighting position to all four parts, to include a hide and turret defilade location. The access ramp from the hide location to the hull defilade position usually provides turret defilade for a vehicle at some point on the ramp. This location can be marked with engineer tape and a chemical light so the driver knows when to stop.
569. What is an engagement area?
- The engagement area is where the Infantry leader intends to engage and destroy an enemy force using the massed fires of all available weapons. Leaders combine natural and man-made obstacles to canalize the attacking force into engagement area. The success of engagements depends on how the leader can integrate the obstacle plan, indirect fire plan, and direct fire plan within the engagement area to achieve the Infantry platoon's and squads' tactical purposes.
570. What goes into engagement area development at the platoon level?
- At the platoon level, engagement area development is a complex function demanding parallel planning and preparation if the Infantry platoon and squad are to accomplish the myriad tasks for which it is responsible. Despite this complexity, engagement area development resembles a drill, and the platoon leader and his subordinate leaders use an orderly, standard set of procedures. The steps of engagement area development are not a rigid sequential process. Some steps may occur simultaneously to ensure the synergy of combined arms.
571. What is the development process for engagement areas?
- Beginning with evaluation of METT-TC, the development process—
  - Identifies all likely enemy avenues of approach.
  - Determines likely enemy schemes of maneuver.
  - Determines where to kill the enemy.
  - Plans and integrates obstacles.
  - Emplaces weapon systems.
  - Plans and integrates indirect fires.
  - Rehearses the execution of operations in the engagement area.
572. What goes into consideration when identifying the enemy's likely avenues of approach?

- a. Procedures and considerations when identifying the enemy's likely avenues of approach (see figure 3-19, page 3-56) include: Conducting initial reconnaissance. If possible, do this from the enemy's perspective along each avenue of approach into the area of operations or engagement area.
  - b. Identifying key and decisive terrain. This includes locations affording positions of advantage over the enemy, as well as natural obstacles and choke points restricting forward movement.
  - c. Determining which avenues provide cover and concealment for the enemy while allowing him to maintain his tempo.
  - d. Determining what terrain the enemy is likely to use to support each avenue.
  - e. Evaluating lateral routes adjoining each avenue of approach.
573. How is the enemy's scheme of maneuver determined?
- a. Procedures and considerations in determining the enemy's scheme of maneuver (see figure 3-20) include:
  - b. Determining how the enemy will structure the attack.
  - c. Determining how the enemy will use his reconnaissance assets. Will he attempt to infiltrate friendly positions?
  - d. Determining where and when the enemy will change formations and establish support-by-fire positions.
  - e. Determining where, when, and how the enemy will conduct his assault or breaching operations.
  - f. Determining where and when he will commit follow-on forces.
  - g. Determining the enemy's expected rates of movement.
  - h. Assessing the effects of his combat multipliers and anticipated locations/areas of employment.
  - i. Determining what reactions the enemy is likely to have in response to projected friendly actions.
574. How is the enemy engagement area marked?
- a. The following steps apply in identifying and marking where the enemy engagement (see figure 3-21, page 3-58) is to occur:
  - b. Identify target registration points matching the enemy's scheme of maneuver allowing the Infantry platoon and squad to identify where it will engage enemy forces through the depth of the area of operations.
  - c. Identify and record the exact location of each target registration point. In marking target registration points, use thermal sights to ensure visibility at the appropriate range under varying conditions, including daylight and limited visibility (darkness, smoke, dust, or other obscurants).
  - d. Determine how many weapon systems will focus fires on each target registration point to achieve the desired end state.
  - e. Determine which element will mass fires on each target registration point.
  - f. Establish engagement areas around target registration points.
  - g. Develop the direct fire planning measures necessary to focus fires at each target registration point.
575. How are obstacles planned and integrated during defensive missions?

- a. The following steps apply in planning and integrating obstacles (see figure 3-22) during defensive missions: Determine the obstacle group intent with the engineer platoon leader confirming the target, relative location, and effect. Ensure intent supports the task force scheme of maneuver. In conjunction with the engineer platoon leader, identify, site, and mark the obstacles within the obstacle group. Integrate protective obstacle types and locations within Infantry platoon defensive perimeter. Ensure coverage of all obstacles with direct fires and or indirect fires. Assign responsibility for guides and lane closure as required. According to METT-TC, assist engineer platoons in emplacing obstacles, securing Class IV/V point, and securing obstacle work sites. Coordinate engineer disengagement criteria, actions on contact, and security requirements with the engineer platoon leader at the obstacle work site.
576. What are steps for selecting and improving infantry fighting positions?
- a. The following steps apply in selecting and improving battle positions and emplacing the Infantry platoon and squad vehicles, crew-served weapon systems, (see figure 3-23, page 3-60) and dismounted Infantry positions:
  - b. Select tentative platoon/squad battle positions. Conduct a leader's reconnaissance of the tentative battle positions.
  - c. Drive the engagement area to confirm selected positions are tactically advantageous. Confirm and mark the selected battle positions.
  - d. Ensure battle positions do not conflict with those of adjacent units and are tied in with adjacent positions.
  - e. Select primary, alternate, and supplementary fighting positions to achieve the desired effect for each target registration point.
  - f. Ensure platoon sergeants, vehicle commanders, or dismounted Infantry squad leaders position weapon systems so each target registration point is covered by the required number of weapons, vehicles, and squads.
  - g. Ensure positions allow vehicle commanders, loaders, and gunners (as applicable for each vehicle or weapons system) to observe the engagement area and engage enemy forces from the hull down position.
  - h. Stake vehicle or weapons system positions according to unit SOPs so engineers can dig in the positions while vehicle crews perform other tasks.
  - i. Confirm all vehicle or weapons system positions.
577. What are steps for planning and integrating direct fires?
- a. The following steps apply in planning and integrating indirect fires (See figure 3-24, page 3-62.):
  - b. Determine the purpose of fires.
  - c. Determine where purpose will best be achieved.
  - d. Establish the observation plan that includes— Redundancy for each target. Observers who will include the fire support team, as well as members of maneuver elements with direct fire support execution responsibilities.
  - e. Establish triggers based on enemy movement rates.
  - f. Obtain accurate target locations using organic target location devices or survey/navigational equipment.

- g. Refine target locations to ensure coverage of obstacles.
  - h. Plan final protection fire.
  - i. Request critical friendly zone for protection of maneuver elements and no-fire areas for protection of observation posts and forward positions.
578. What is the purpose of rehearsals during the defense?
- a. The purpose of rehearsals is to ensure every leader and Soldier understands the plan and elements are prepared to cover their assigned areas with direct and indirect fires. The rehearsal should cover—
  - b. Rearward passage of security forces (as required).
  - c. Closure of lanes (as required).
  - d. Movement from the hide position to the battle position.
  - e. Use of fire commands, triggers, and maximum engagement lines (MELs) to initiate direct and indirect fires.
  - f. Shifting of fires to refocus and redistribute fire effects.
  - g. Disengagement criteria.
  - h. Identification of displacement routes and times.
  - i. Location of remount points, the times remount operations will take place, and movement considerations for conduct of a remount in contact. Preparation and transmission of critical reports using radio and digital systems, as applicable.
  - j. Assessment of the effects of enemy weapon systems.
  - k. Displacement to alternate, supplementary, or subsequent battle positions.
  - l. Cross-leveling or resupply of Class V.
  - m. Evacuation of casualties. The platoon leader should coordinate rehearsals with higher headquarters to ensure there are no conflicts with other units.  
Coordination leads to efficient use of planning and preparation time for all units involved with the operation. It eliminates dangers of misidentifying friendly forces in the rehearsal area, which could result in fratricide.
579. What actions occur during consolidation?
- a. Small unit leaders plan and prepare for consolidation during TLP. The following actions are usually a part of consolidation:
  - b. Eliminate enemy resistance on the objective.
  - c. Establish security beyond the objective by securing areas that may be the source of enemy direct fires or enemy artillery observation.
  - d. Establish additional security measures such as observation posts and patrols.
  - e. Prepare for and assist the passage of follow-on forces, if required.
  - f. Continue to improve security by conducting other necessary defensive actions. These defensive actions include engagement area development, direct fire planning, and battle position preparation.
  - g. Adjust final protective fires and register targets along likely mounted and dismounted avenues of approach.
  - h. Protect the obstacle reduction effort.
  - i. Secure detainees.
  - j. Prepare for enemy counterattack.
580. How is a counterattack executed?

- a. Execution of the counterattack is similar to an assault by fire. Planning and preparation considerations for counterattack vary depending on the purpose and location of the operation. For example, the counterattack may be conducted forward of friendly positions, requiring the reserve force to move around friendly elements and through their protective and tactical obstacles. In other situations, the Infantry leader may use a counterassault by fire to block, fix, or contain a penetration. In any case, the reserve force conducts the counterattack as an enemy-oriented task.
581. Why is the development of a defensive contingency a sound practice for operations focused on stability tasks?
- a. It may be tactically wise for the leader to plan a defensive contingency with onorder offensive tasks for operations focused on stability tasks. Subordinate leaders must be fully trained to recognize activities, which initiate this transition. Leaders and Soldiers must be aware that elements of the BCT could be conducting offensive, defensive, and stability missions simultaneously within a small radius of each other. Actions in one unit's area of operation can affect a change in whatever type task an adjacent unit is conducting. For example, an engagement with an enemy force may have caused noncombatants to be displaced to another section of the city leaving the area of operation open to theft, looting, and vandalism by belligerents.
582. What is the purpose behind stability components of an operation?
- a. Stability components of an operation leverage the coercive and constructive capabilities of the military force to establish a safe and secure environment, facilitate reconciliation between local or regional adversaries; establish political, legal, social, and economic institutions; and facilitate the transition of responsibility to a legitimate civil authority. This chapter discusses Infantry platoon and squad support to stability tasks; it addresses tactical actions and tasks in support of stability, planning considerations and transitions.
583. What do unified land operations require?
- a. Unified land operations require continuous, simultaneous combinations of offensive, defensive, and stability tasks. Stabilization is the process by which underlying tensions that might lead to resurgence in violence and a breakdown in law and order are managed and reduced, while efforts are made to support preconditions for successful longterm development. (FM 3-07) Stability operations encompass various military missions, tasks, and activities conducted outside the United States in coordination with other instruments of national power to maintain or reestablish a safe and secure environment; provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief
584. What occurs as combat operations culminate in terms of stability operations?
- a. As combat operations culminate, part of the force secures critical infrastructure and populated areas. Protecting or preventing further harm to the civilian population are legal obligations of military forces during operations. However, if a unit is decisively engaged in conducting combat tasks, it should not divert from

mission accomplishment to perform stability tasks, until the situation permits. If unable to perform minimum essential stability tasks, the unit should inform higher headquarters and continue with its mission as assigned.

585. How do leaders minimize the effects of combat on the populace?
- a. Leaders plan to minimize the effects of combat on the populace. Properly focused, executed stability tasks prevent population centers from degenerating into civil unrest and becoming recruiting areas for opposition movements or insurgencies. 4-4. Infantry platoons and squads are not capable of achieving the desired end state of stability tasks independently. They support stability tasks by performing platoon and squad-level missions, tasks, and activities supporting the stability tasks of its higher headquarters often partnered and working closely with other unified action partners.
586. What is a stability framework based on?
- a. A stability framework based on conditions within the area of operations of initial response, transformation, and fostering stability, helps the unit determine the required training and task organization of forces prior to initial deployment, and serves as a guide to actions in an operation focused on stability tasks. (Refer to ATP 3-07.5 for more information.) Stability tasks occur in three phases described in the following paragraphs. These phases facilitate identifying lead responsibilities and determining priorities and describe the conditions on the operational environment.
587. What actions are taken in the initial response phase?
- a. These actions generally reflect activity executed to stabilize a crisis state in the area of operations. Army conventional force units typically perform initial response actions during, or directly after, a conflict or disaster in which the security situation prohibits the introduction of civilian personnel. Initial response actions aim to provide a secure environment that allows relief forces to attend to the immediate humanitarian needs of the local population. They reduce the level of violence and human suffering while creating conditions that enable other actors to participate safely in relief efforts.
588. What actions are taken in the transformation phase?
- a. Stabilization, reconstruction, and capacity-building are transformation phase actions that are performed in a relatively secure environment. Transformation phase actions take place in either crisis or vulnerable states. There is the presence of a legitimate authority either interim or established as well as indigenous host nation security forces. These actions aim to build host-nation capacity across multiple sectors. Transformation phase actions are essential to the continuing stability of the environment. These actions are essential to fostering stability within the area.
589. What actions are taken in the fostering sustainability phase?
- a. These are actions that encompass long-term efforts, which capitalize on capacity building and reconstruction activities. Successful accomplishment of these actions establishes conditions that enable sustainable development. Usually military forces perform fostering sustainability phase actions only when the

security environment is stable enough to support efforts to implement the long-term programs that commit to the viability of the institutions and economy of the host nation. Often military forces conduct these long-term efforts to support broader, civilian-led efforts.

590. What are the five primary stability tasks conducted by army forces?
- Army forces conduct the following five primary stability tasks: civil security, civil control, restore essential services, support to governance, and support to economic and infrastructure development. At brigade level and below, the primary stability tasks are too broad to focus effort appropriately; at lower tactical echelons, lines of effort are best designed using standard mission-essential tasks. Lines of effort may focus on specific aspects of the local situation, such as the restoration of essential civil services. There, activities of military forces often are shaped using lines of effort based on (sewage, water, electricity, academics, trash, medical, security, and other considerations) while addressing the need to provide food aid and shelter.
591. What is involved in the establishment of civil security?
- Establishing civil security involves providing for safety of the host nation and its population, including protection from internal and external threats; it is essential to providing a safe and secure environment. Civil security includes a diverse set of activities. These range from enforcing peace agreements to conducting disarmament, demobilization, reintegration, and includes biometric identity data collection to identify criminal elements, known and suspected terrorists, and other irregular forces.
592. How can subordinate platoons of the Infantry company execute stability tasks for the Infantry battalion?
- Subordinate platoons of the Infantry company execute stability tasks for the Infantry battalion. Until a legitimate civil government can assume responsibility for the security, military forces perform the tasks associated with civil security. At the same time, they help develop host nation security and police forces. Normally, the responsibility for establishing and maintaining civil security belongs to military forces from the onset of operations through transition, when host nation security and police forces assume this role.
593. What is an initial step toward instituting rule of law and stable governance?
- Establishing civil control is an initial step toward instituting rule of law and stable governance. Although establishing civil security is the first responsibility of military forces in stability, this can only be accomplished by also restoring civil control. Internal threats may manifest themselves as an insurgency, subversive elements within the population, organized crime, or general lawlessness. Civil control regulates selected behavior and activities of individuals and groups. This control reduces risk to individuals or groups and promotes security. Curfews and traffic checkpoints, together with biometric identity data collection, are examples of civil control.
594. What are the infantry platoon and squad capable of during stability operations?

- a. The Infantry platoon and squad is capable of providing only the most essential services. Normally, the military force supports other government, intergovernmental, and host-nation agencies improving essential services. Essential services include the following:
    - b. Emergency medical care and rescue.
    - c. Providing food and water.
    - d. Providing emergency shelter.
595. What are the purposes of stability tasks?
- a. Stability tasks establish conditions enabling interagency and host nation actions to succeed. Military forces focus on transferring control to a legitimate civil authority according to the desired end state. At the platoon and squad level, supports to governance tasks are dependent on those of the Infantry battalion and IBCT. Those tasks focus primarily on continuing civil security and civil control operations to provide a safe and secure environment. As in other stability tasks, leader and Soldier engagement with local officials and the population are ongoing. Company level and below tasks commonly support external agencies along specific themes nested with higher efforts. Targeted civil reconnaissance, and in some cases surveillance of the population, groups, and institutions, is ongoing to monitor the efficacy of programs, policies, and procedures established by a transitional or civil authority. Early identification of developing problems provides a means to focus additional tasks and available resources to support the appropriate authority before becoming a source of instability and dissent among the populace.
596. How can economic and infrastructure development help host nations?
- a. Support to economic and infrastructure development helps a host nation develop capability and capacity in these areas. It may involve direct and indirect military assistance to local, regional, and national entities. At the platoon and squad level, support to economic and infrastructure development focuses primarily on continuing civil security and civil control operations in order to provide a safe and secure environment that allows external agencies to leverage their capabilities. As in other stability tasks, leader and Soldier engagement with local officials and the population are ongoing. At the company and below these efforts are commonly in coordination with external agencies in order to identify the economic and infrastructure development needs at the local level and match those needs with available programs and funding sources. The small unit leader plans for stability in a manner similar to the offense and defense. The planning process is continuous, constantly adapting as the conditions of the operational environment are shaped by activities, both natural and human. Often planning for the next mission begins simultaneously as assessing the previous mission during stability. The leader must be aware of more than the accomplishment of the mission but also the manner in which it was conducted and the sentiment the population had during its execution. The resultant plan must foster flexibility, initiative, and adaptability in the face of unforeseen events. The following warfighting functions discuss planning considerations and activities critical for mission success.

597. Are stability tasks decentralized?
- Stability tasks tend to be decentralized in nature, over extended distances. As such, Infantry unit activities will consist largely of independent small-unit operations conducted across an assigned area of operation. Units must conduct these operations with consistency, impartiality, and discipline to encourage cooperation from unified action partners for a cohesive effort.
598. What challenges do stability tasks provide?
- Stability tasks, more so than offensive and defensive tasks, present a unique challenge. Where offense and defense typically focuses on the defeat of an enemy force, stability focuses on the people. In setting the tone for planning, the Infantry leader provides—
  - Understanding.
  - The intent and planning guidance.
  - Concept of operation.
599. What must the PL understand when conducting stability operations?
- The platoon leader must clearly understand mission, situation, commander's intent and he must ensure his subordinate units understand as well. He must plan for continuous operations, and, as with offense and defense, planning and preparation time is often limited. The plan must facilitate adjustment based upon changes in the situation. Additional considerations and activities include:
  - Civil-military operations (CMO).
  - Civil affairs operations.
  - Military information support operations (MISO).
  - Rules of engagement. (Refer to chapter 1, section I of this publication for more information.)
  - Rules of interaction, which include: Persuasion. Negotiation. Communication skills.
  - Task organization, which includes: Augmentation. Required individual augmentees and augmentation cells to support force-tailoring requirements and personnel shortfalls. Augmentation supports coordination with the media, government agencies, nongovernmental organizations, international organizations, other multinational forces, and civilmilitary elements. Analyses of METT-TC drive augmentation. Liaison. Task-organized small liaison teams to deal with situations that develop with the local population. Depending the situation requirements, unit ministry, engineers, MISO, civil affairs, counterintelligence, linguistics, and logistics personnel may be task-organized to make up these liaison teams. These teams can free up maneuver elements (may require security from platoon) and facilitate negotiation. Negotiation teams must have linguists and the personnel who have the authority to negotiate. Operations with outside agencies. Includes other U.S. armed services or government agencies as well as international organizations (including nongovernmental organizations, coalition, and United Nation military forces or agencies). Coordination and integration of civilian and military activities must take place at every level. Coordinating centers such as the civil-military operations center are

designed to accomplish this task. These operations centers should include representatives from as many agencies as required.

- h. Media. Soldiers must be aware of current media reports from about the area and be willing to work with journalists in efforts to promote good relationship and combat
600. How do Soldiers derive their effectiveness in stability ops?
- a. Soldiers derive their effectiveness from their ability to understand and work with foreign counterparts from another culture. They need to understand enough of their own culture and their counterpart's culture to accurately convey ideas, concepts, and purpose without causing counterproductive consequences. Soldiers need to be aware of aspects of the local culture and history that influence behavior in their operational environment. Soldiers need to understand the reasons and motivations underlying personal interaction and practice patience when working with their counterparts. Group norms guide individual behavior, and Soldiers need to understand how individuals in a society tend to interact as members of a group, whether a race, ethnic, or kinship group. Cultural understanding is not derived from demographic information provided to the military through country briefs prior to deployment. It is gained from studying, interacting, and understanding the people, religion, history, customs, and social and political structures within an area. For true understanding, it is necessary to live among the people, gradually understanding the subtleties and nuances of their culture. Leaders in the Infantry company ensure that Soldiers understand that the actions of one can have a positive or negative effect in the way that the entire unit is viewed by the local population.
601. How do leaders support narratives?
- a. Leaders use their own themes and messages to support their narratives. Narratives are tied to actions in their operational environments and area of operations. A narrative is a brief description of a leader's story used to visualize effects the leader wants to achieve in the information environment to support and shape their operational environments. An effective leader's theme supports overarching U.S. Government and higher headquarters themes, has details, and is tailored to environmental conditions in their area of operations.
602. What are themes? What do they represent?
- a. Themes are planning tools that guide development of the narrative, messages, and other information products (talking points, MISO objectives, and public affairs guidance). Themes represent broad ideas the leader wants to convey to selected audiences. Themes are not communicated to selected audiences, messages are. Themes are broad and enduring, and as such, they do not change frequently. They can be verbal, written, gestured, or electronic communications supporting a theme focused on an audience. They support a specific action or objective. Messages are tailored to specific audiences. Leaders use messages to communicate clear information and, if necessary, elicit a response or change in behavior. Messages are situation and mission dependent. Command information messages convey local leaders' policies and intent to their subordinates.

603. What is the role of the public affairs officer?
- The public affairs officer develops command information and public information messages. Army public information is information of a military nature, the dissemination of which is consistent with security and the DOD principles of information. Command information is communication from the commander to help members of the command understand organizational goals, operations, and significant developments.
604. What is the purpose of psychological messages?
- Psychological messages convey specific information to selected foreign audiences to influence their perceptions, attitudes, beliefs, and behavior. The military information support planner or unit develops these messages. MISO messages and actions support themes established in the approved MISO program for that particular mission.
605. How do leaders gain and maintain support of populations in conflict areas?
- Leaders consider perceptions and ramifications of their actions to gain and maintain support of populations in conflict areas. Leaders first understand host-nation laws and cultures, enabling them to operate effectively in the information environment. Second, leaders determine how to inform audiences at home, gain support abroad, and generate support or empathy for missions in their area of operations. Leaders use information to marginalize or defeat adversary or enemy information efforts by shaping attitudes and behaviors of foreign audiences residing in area of operations. Synchronized themes, messages, and actions support the leader's operational goals by integrating words, images, and deeds to avoid confusion or information fratricide.
606. What is the intent of movement and maneuver stability tasks?
- Movement and maneuver stability tasks are similar to the offense and defense with extensive emphasis on security and engagement skills (negotiation, rapport building, cultural awareness, and critical language phrases). The intent is to create a stable environment allowing peace to take hold while ensuring the force is protected. Movement and maneuver often is decentralized to the small unit level. At company level, the commander works stability problems collectively with subordinate platoon leaders who own the ground in the area of operation, sharing understanding and exploring possible solutions. Once leaders understand the situation, seeking consensus helps subordinates understand the commander's intent. Subordinates exercise initiative and act based on the commander's intent informed by whatever situational awareness they have developed.
607. What must Leaders be prepared to rely on to assist movement and maneuver?
- Leaders must be prepared to rely on direct and indirect fire support, protection, and sustainment elements to assist movement and maneuver. When new requirements develop, these same elements must be ready to shift priorities. Establishing the force's presence in the area of operation is often the first requirement of the platoon's stability mission. Being on the ground establishes links with the local populace. Through Soldier engagement, the populace begins

to trust and relate to friendly forces. Driving around in an armored convoy may degrade situational awareness. It can make Soldiers targets and often is more dangerous than moving on foot and remaining close to the populace.

608. What are considerations when arriving in the area of operations during stability operations?
- a. Upon arrival in the area of operation, it may not be advisable to go straight for the main aggressor stronghold or to try to take on villages that support criminals and criminal networks or other hostile actors. Start from secure areas and work gradually outward. Extend influence through local networks. First, win the confidence of a few villages, and then work with those with whom they trade, intermarry, or do business. This tactic develops local allies, a mobilized populace, and trusted networks. Seek a victory early during stability to demonstrate dominance of the area of operation. This does not require a combat victory. Often victories can be attained by building relationships rather than by combat. Early combat without accurate situational understanding may create unnecessary collateral damage and ill will. Instead, victories may involve using leader engagement to resolve a long-standing issue or co-opt a key local leader. Achieving even a small early victory can set the tone for the mission and help commanders seize the initiative.
609. Why might the platoon be tasked with the establishment of a quick reaction force in stability operations?
- a. The platoon may be tasked to establish a quick reaction force for the security of checkpoints, outposts, observation post, and work sites, and to support patrols, meetings, and convoys in the area of operation. Planning should provide a force of the appropriate size for a quick reaction force to separate local hostile parties before potential violent situations grow out of control. The force must have the ability to respond anywhere in the area of operation, and be rapidly reinforced by augmentation and maneuver elements.
610. What supports critical tasks applied through the movement and maneuver warfighting function?
- a. Mobility, countermobility, survivability, and general engineering capabilities support critical tasks applied through the movement and maneuver warfighting function. These capabilities provide a major role in protecting positions, headquarters, support facilities, base camps, and highly vulnerable assets.
611. What is an important role in the accomplishment of any stability task?
- a. Intelligence plays an important role in the accomplishment of any stability task. The small unit leader uses all available information collection to help accomplish the mission. Every member of the platoon plays a role in gathering information to support higher echelon planning. The company commander uses his CoIST to produce intelligence for his subordinate unit. The CoIST manages the information collection effort to ensure every member of the company headquarters and its subordinate units understands the operational environment and plays an active role in the development of the common operational picture.
612. What must be identified during stability?

- a. During stability, threats must be identified and decisive points defined. Leaders focus information collection activities to identify sources of instability. Platoon tasks will have different requirements, time frames, ROE, and other differences influencing what information collection is required in order to provide recommendations or decisions for platoon and higher echelon planning. Predictive assessment contributes to future planning and force disposition the end state and its defining conditions for every task.
- 613. What must the platoon accomplish with the local populace?
  - a. Collaboration and interaction with local populace is essential. Once the platoon occupies an area of operation, its next task is to build trust and relationships with the local populace. Relationships are built with community leaders and local security forces. Over time, these relationships may lead to partnership and collaboration in support with stability tasks.
- 614. What drives threat mitigation during stability operations?
  - a. Threat mitigation during stability is intelligence driven. The platoon often develops much of its own intelligence in relation to the amount they receive from higher headquarters. Small unit leaders organize their assets to collect local information unavailable to higher sources of intelligence. Linguists are important in the collection of local information, but like any other scarce resource, must be allocated and utilized effectively. Biometrics collections and its use prior to conducting essential tasks or activities enhance protection. Soldiers utilizing the biometrically enabled watchlist (BEWL) loaded on handheld devices or other biometrics collect/match systems can identify individuals via prior biometric enrollments so that regardless of who they say they are their identities are known with certainty. Social network analysis and other analytical tools can be useful for promoting situational understanding of the operational environment for stability tasks as well as counterinsurgency.
- 615. What does civil reconnaissance focus on?
  - a. Civil reconnaissance (Refer to chapter 6, section III of this publication) focuses specifically on the civil component, the elements of which may best be represented by ASCOPE. Civil reconnaissance can be conducted by civil affairs personnel or by other forces, as required. It differs from other reconnaissance in that it usually is not targeted at a specific enemy; instead, it focuses on answering information requirements for civil situation awareness.
- 616. How do stability ops impact the implementation of indirect fire support?
  - a. Although indirect fire support planning for stability is the same as for offense and defense, the use of indirect fire support may be very restricted and limited. (Refer to appendix C of this publication for more information.) The Infantry leader integrates indirect fire support into his plan considering the ROE. The ROE may impose restrictions on the use of certain munitions and detail release authority/strike approval authorization. Special considerations include the following:
    - b. Procedures for rapid clearance of fires.
    - c. Close communication and coordination with host country officials.

- d. Increased security for indirect firing positions.
  - e. Restricted use of certain munitions such as dual purpose improved conventional munitions, area denial artillery munitions, or remote antiarmor mine.
617. The operational environment the Infantry platoon and squad operates in during stability may be very austere. How does this impact sustainment?
- a. The operational environment the Infantry platoon and squad operates in during stability may be very austere, creating special sustainment considerations. (Refer to chapter 7 of this publication for more information.) These factors include, but are not limited to, the following:
  - b. Reliance on local procurement of certain items.
  - c. Shortages of various critical items, including repair parts, Class IV supply materials, and lubricants.
  - d. Special Class V supply requirements.
  - e. Reliance on bottled water.
  - f. Class IV supplies for construction of fixed observation posts and checkpoints.
  - g. Use of existing facilities or new construction for quarters; water, sewer, and power utilities; reinforced hardstand areas for maintenance.
  - h. Barriers or berms to protect ammunition and fuel.
  - i. Use of female Soldiers to assist with searching host-nation female suspects.
  - j. Class IX items.
618. What is essential for success at all levels during stability?
- a. Protection of the force during stability is essential for success at all levels. Infantry leaders continually balance protection needs between military forces and civil populations. Frequent interaction between U.S. forces and local population make protection planning difficult and essential. Threats often blend in with the local populace during stability and are difficult to identify, making heightened levels of awareness the norm. The close proximity of civilians and Soldiers also can promote health issues (such as communicable disease) through close contact with local civilians, detainees, or local foods.
619. What is often the most decisive factor in stability?
- a. The protection of civil institutions, processes, and systems required to reach the end state conditions of stability strategy often can be the most decisive factor in stability because its accomplishment is essential for long-term success. Civil areas typically contain structured and prepared routes, roadways, and avenues canalizing traffic. This can lead to predictable friendly movement patterns that maybe exploited by the enemy. An additional planning consideration during stability tasks is to protect the force while using the minimum force consistent with the approved ROE. Additional protection considerations during stability include:
  - b. Reducing the unexploded ordnance and mine threat in the area of operations.
  - c. Fratricide and friendly fire prevention and minimizing escalation of force (EOF) incidents through combat, civilian, and coalition identification measures.
  - d. Developing rapid and efficient personnel recovery techniques and drills.

- e. Clear operations security procedures account for close proximity of civilians, nongovernmental organizations, and contractors.
  - f. Disciplined information management techniques to preserve access to computer networks.
  - g. Containment of toxic industrial material is present in the civilian environment.
  - h. Survivability requirements for static facilities, positions, or outposts.
620. How do civil affairs forces support infantry leaders?
- a. Civil affairs forces support leaders by engaging civil component (interagency, indigenous population and institutions, host nation, intergovernmental organizations or private sector) of an operational environment conducting civil affairs operations and support to the commander's civil-military operations. Civil affairs forces ensure sustained legitimacy of the mission and transparency and credibility of the military force before, during, or after other military missions. This support involves applying specialty skills (normally responsibility of a local, regional, or national government) to enhance conduct of civil-military operations. As they relate to information related capabilities civil affairs operations and civil-military operations differ in purpose, focus, and specialization. Civilmilitary operations are a leader's activities establishing, maintaining, influencing, or exploiting relations among military forces, governmental, nongovernmental civilian organizations, authorities, and civilians.
621. How does media impact stability operations?
- a. The presence of the media is a reality that confronts every Soldier involved in all operations. All leaders and Soldiers must know how to deal effectively with broadcast and print reporters and photographers. This should include an understanding of subjects they are authorized to discuss and subjects the public affairs officer must address. The objective of the Infantry battalion commander in dealing with the media is to ensure that operations are presented to the public in proper context. All leaders and soldiers must know how to deal effectively with reporters and photographers. They should understand which subjects they are authorized to discuss and which ones they must refer to the public affairs officer.
622. What is the purpose of military information support soldiers in stability operations?
- a. Military information support Soldiers provide subject matter expertise in the information operations. As primary members of the information operations working group, they advise, plan, provide operations oversight, and assess messages and actions having potential or actual psychological effects. Military information support units also provide analysis, development, production, distribution, and dissemination capabilities for MISO and are the primary executors for purposes of informing and influencing target audiences. Military information support Soldiers, provide dedicated intelligence support can also provide post-delivery measures of performance and measures of effectiveness. The information operations element utilizes military information support analyses of audiences and their environments. The information operations element also assesses adversary information and capability, including information for effects, misinformation, disinformation, and propaganda.

623. How do military information support planners and attached military information support units help leaders?
- Military information support planners and attached military information support units help leaders in executing Soldier and leader engagement efforts in areas of operations. Military information support Soldiers are trained, educated, equipped, and organized to plan, monitor, and assess engagement with foreign populations and select audiences. This engagement includes planning engagements with foreign populations, leaders, key communicators, and others with specific intent to influence to support leader objectives. Military information support planners plan, manage, and assess Soldier and leader engagement efforts. They support the leader's larger engagement strategy.
624. What is tactical movement? What does it involve?
- Tactical movement involves movement of a unit assigned a mission under combat conditions when not in direct ground contact with the enemy. Tactical movement is based on the anticipation of early ground contact with the enemy, either en route or shortly after arrival at the destination. Movement ends when ground contact is made or the unit reaches its destination. Movement is not maneuver. Maneuver happens once a unit has made contact with the enemy and combines movement with direct fires to gain a position of advantage over the enemy. Because tactical movement shares many of the characteristics of an offensive action, the area of operation is organized in a manner similar to other offensive actions. This chapter discusses troop movement, the basics and formations of tactical movement.
625. What is the definition of troop movement?
- Troop movement is the movement of troops from one place to another by any available means. (ADRP 3-90) The ability to posture the force for a decisive or shaping operation depends on the capability to conduct rapid and orderly movement to concentrate the effects of combat power at decisive points and times. Movement places troops and equipment at their destination at the proper time, ready for combat. The three types of troop movement are administrative movement, tactical road march, and approach march.
626. How are troop movements made?
- Troop movements are made by dismounted and mounted marches using organic combat vehicles and motor transport, air, rail, and water means in various combinations. The method employed depends on the situation, size and composition of the moving unit, distance unit must cover urgency of execution, and condition of the troops. It also depends on the availability, suitability, and capacity of the different means of transportation. Troop movements over extended distances have extensive sustainment considerations. Dismounted and mounted marches can be hurried when necessary by conducting a forced march.
627. What are the characteristics of foot marches?
- Dismounted marches, also called foot marches, are movements of troops and equipment, mainly by foot, with limited support from vehicles. They are conducted when stealth is required, the distance to travel is short, transport or

fuel is limited, or the situation precludes using a large number of vehicles. (Refer to FM 21.18 for more information.) Advantages and disadvantages include:

- b. Combat readiness—can immediately respond to enemy attack without the need to dismount, ease of control, adaptability to terrain, and independence from the existing road network. Limitations—slow movement rate and increased personnel fatigue, carrying heavy loads over long distances, changes in elevation. A unit conducts a dismounted march when the situation requires stealth, the distance to travel is short, transport or fuel is limited, or the situation or terrain precludes using a large number of vehicles.
628. What is a mounted march?
- a. Mounted march is the movement of troops and equipment by combat and tactical vehicles. (FM 3-90-2) The speed of the march and the increased amounts of supplies that can accompany the unit characterize this march method. The Infantry platoon is not equipped with organic truck assets and will need augmentation from transportation elements to conduct mounted marches. Considerations for mounted marches over extended distances include:
  - b. Route network to support the numbers, sizes, and weights of the combat vehicles assigned to or supporting the unit making the move.
  - c. Refueling and maintenance sites and crew-rest areas.
  - d. Recovery and evacuation assets.
  - e. Spill kits, personal protective equipment, and spill cleanup waste disposal equipment.
629. What are air movements?
- a. Air movements are operations involving the use of utility and cargo rotary-wing assets for missions other than air assaults. Air movements are conducted to move troops and equipment, to emplace systems, and to transport ammunition, fuel, and other highvalue supplies. Air movements have the same planning considerations as air assault operations.
630. Are rail and water movements used to move troops and equipment?
- a. Rail and water movements are used to conduct troop movement if they are available within an area of operations.
631. What is the purpose of a forced march?
- a. Forced marches in cases of tactical necessity can accelerate the rate of movement so as to arrive at its destination quickly. Forced marches require a combination of speed, exertion, and an increase in the number of hours marched or traveled by vehicles each day beyond normal standards. Soldiers cannot sustain forced marches for more than a short period. During a forced march, a unit may not halt as often or for as long as recommended for maintenance, rest, feeding, and fuel. The leader must understand that immediately following a long and fast march, Soldiers and combat vehicles experience a temporary deterioration in their condition. The combat effectiveness and cohesion of the unit also decreases temporarily. The forced march plan must accommodate the presence of stragglers and address increased maintenance failures.
632. What is the definition of an administrative movement?

- a. Administrative movement is a movement in which troops and vehicles are arranged to expedite their movement and conserve time and energy when no enemy ground interference, except by air, is anticipated. (Refer to FM 3-90-2 for more information.) Administrative movements only are conducted in secure areas. They include rail and highway movement within the continental United States. Once deployed into theater of war, administrative movements normally are not conducted.
633. What is a tactical road march?
- a. A tactical road march is a rapid movement used to relocate units within area of operation to prepare for combat operations. Units maintain security against enemy air attack and prepare to take immediate action against an enemy ambush, although they do not expect contact with significant enemy ground forces. (If the moving unit anticipates making contact with significant enemy ground forces then it will use a mix of combat formations and movement techniques.)
  - b. The primary consideration of the tactical road march is rapid movement. However, the moving force employs security measures, even when contact with enemy ground forces is not expected. Units conducting road marches may or may not be organized into a combined arms formation. During a tactical road march, the unit always is prepared to take immediate action if the enemy attacks. (Refer to FM 21.18 for more information.)
634. How are tactical road marches organized?
- a. The organization for a tactical road march is the march column. A march column consists of all elements using the same route for a single movement under control of a single commander. The four elements of a march column include, reconnaissance, quartering/advance party, main body, and trail party.
  - b. A brigade conducting a tactical road march is an example of a march column. The subordinate elements of a march column are a march serial and a march unit. A march serial is a major subdivision of a march column that is organized under one commander who plans, regulates, and controls the serial. An example is a battalion serial formed from a brigade-size march column. A march unit is a subdivision of a march serial. It moves and halts under the control of a single commander who uses voice and visual signals. An example of a march unit is a company from a battalion-size march serial.
  - c. A march column provides excellent speed, control, and flexibility, but sacrifices flank security. It provides the ability to deploy forces to the front of the column. A march column is utilized when speed is essential and enemy contact is unlikely. However, functional and multifunctional support elements, such as air defense and engineers, are spaced throughout the column to protect and support the movement. (Refer to FM 3-90-2 for more information.)
635. How are overlays used in the development of tactical road marches?
- a. An overlay or strip map often is used to graphically depict critical information about a tactical road march route to subordinates. The overlay (see figure 5-1, page 5-4) or strip map (see figure 5-2, page 5-5) typically shows the route of

march, start points, release points, checkpoints, critical points (such as bridges), light line, and traffic control post. Other graphic control measures include AA and phase lines. The terms are defined below:

- b. Start point is a location on a route where the marching elements fall under the control of a designated march commander.
  - c. Release point is a location on a route where marching elements are released from centralized control.
  - d. Checkpoint is a point designated along the route to assist marching units in complying with the timetable.
  - e. Critical point is a point that identifies where interference with movement might occur.
  - f. Light line is a designated phase line, forward of which vehicles are required to use blackout lights during limited visibility.
  - g. Traffic control post are positioned along the route to prevent congestion and confusion. Points may be manned by military police or unit personnel. These Soldiers report to the appropriate area movement control organization when each convoy, march column, and march serial arrives at and completes passage of their location.
  - h. Movement corridor is a designated area; established to protect and enable ground movement along a route, establish a movement corridor to set the conditions to protect and enable movement of traffic along a designated surface route.
636. Why is a close column normally employed for?
- a. A close column normally is employed for marches during darkness under blackout driving conditions or for marches in restricted terrain. This march technique takes maximum advantage of the traffic capacity of a route but provides little dispersion. Distance between vehicles varies from 20 to 25 meters. At night, vehicles are spaced so each driver can see the two lights in the blackout marker of the vehicle ahead. Normally, vehicle density is from 40 to 50 vehicles per kilometer along the route in a close column. 5-20. The dismounted equivalent to the close column is a limited-visibility march. The distance between individual Soldiers is reduced to one to three meters to help maintain contact and facilitate control. Limited-visibility marches are characterized by close formations, difficult mission command and reconnaissance, a slow rate of march, and good concealment from enemy observation and air attack.
637. What provides the best possible passive defense against enemy observation and attack?
- a. Infiltration provides the best possible passive defense against enemy observation and attack. It is suited when time, space, security, deception, and dispersion are necessary. During infiltration, vehicles are dispatched in small groups, or at irregular intervals, at a rate that keeps the traffic density low and prevents undue massing of vehicles during the movement. The disadvantages of an infiltration are that more time is required to complete the move, column control is nearly impossible, and recovery of broken-down vehicles by the trail party is more

protracted when compared to vehicle recovery in close and open columns. Additionally, unit integrity is not restored until the last vehicle arrives at the destination, complicating the unit's onward deployment. Infiltration during troop movement should not be confused with infiltration as a form of maneuver as discussed in chapter 2 of this publication. During extended road marches, halts are necessary to rest personnel, service vehicles, and adjust movement schedules. The march order or unit SOP regulates when to take halts, and addresses actions for various types of halts, such as maintenance, security, and unexpected halts. During halts, each unit normally clears the march route and moves to a previously selected AA to prevent route congestion and avoid being a lucrative target. Units establish security and take other measures to protect the force.

- b. In motor movements, short halts are scheduled every two to three hours of movement and halts may last up to an hour. Long halts occur on marches that exceed 24 hours and last no more than two hours. Long halts are not scheduled at night, which allows maximum time for night movement. Unit leaders promptly notify commanders of the time and approximate length of unscheduled halts.
638. When is an approach march used?
- a. An approach march is the advance of a combat unit when direct contact with the enemy is intended. However, it emphasizes speed over tactical deployment. The approach march is employed when the enemy's approximate location is known, since it allows the force to move with greater speed and less physical security or dispersion. In an approach march, units are task-organized to allow them to transition to an on-order or a be-prepared mission without making major organizational adjustments. The approach march terminates in a march objective, such as an attack position, AA, or assault position, or it can be used to transition to an attack.
639. What is key to successful troop movements?
- a. The key to movement involves selecting the best combination of combat formation and movement technique for each situation. Leaders consider METT-TC in selecting the best route and appropriate formation and movement technique. The leader's selection must allow the moving unit to—
  - b. Maintain cohesion.
  - c. Maintain communication.
  - d. Maintain momentum.
  - e. Provide maximum security. Make enemy contact in a manner allowing them to transition smoothly to offensive or defensive action. Careless movement usually results in contact with the enemy at a time and place of the enemy's choosing. To avoid this, leaders must understand the constantly-changing interrelationship between unit movement, terrain, and weapon systems within their area of operation. This understanding is the basis for employing combat formations, movement techniques, route selection and navigation, crossing danger areas, and security.
640. What actions to leaders take during planning and preparation for tactical movement?

- a. During planning and preparation for tactical movement, leaders analyze the terrain from two perspectives. First, they analyze the terrain to see how it can provide tactical advantage to friendly and enemy forces. Second, they look at the terrain to determine how it can aid navigation. Leaders identify areas or terrain features dominating their avenue of approach. These areas can become possible intermediate and final objectives. 5-29. Leaders identify good ground along the route that facilitates navigation and the destruction of enemy forces in the event that contact occurs. If the leader wants to avoid contact, he chooses terrain that hides the unit. If the leader wants to make contact, he chooses terrain from where he can easily scan and observe the enemy. On other occasions, the leader may require terrain allowing stealth or speed. Regardless of the requirement, the leader must ensure most of the terrain along his route provides some tactical advantage. 5-30. Route selection and navigation are made easier with the aid of technology. The latest Mission Command Systems enhance the Infantry platoon's and squad's ability to ensure they are in the right place at the right time, and to determine the location of adjacent units
641. What are the two types of navigational aids?
- a. There are two categories of navigational aids: linear; and point. Linear navigational aids are terrain features such as trails, streams, ridgelines, wood lines, power lines, streets, and contour lines. Point terrain features include hilltops, and prominent buildings. Navigation aids usually are assigned control measures to facilitate communication during the movement. Typically, linear features are labeled as phase lines while point features are labeled as checkpoints (or rally points). There are three primary categories of navigation aids: catching features; handrails; and navigational attack points.
642. What are catching features?
- a. Catching features are obvious terrain features which go beyond a waypoint or control measure and can be either linear or point. The general idea is if the unit moves past the objective, LOA, or checkpoint the catching feature will alert it that it has traveled too far.
643. What is the offset compass method of navigation?
- a. If there is the possibility of missing a particular point along the route (such as the endpoint or a navigational attack point), it is sometimes preferable to deliberately aim the leg to the left or right of the end point toward a prominent catching feature. Once reached, the unit simply turns the appropriate direction and moves to the desired endpoint. This method is especially helpful when the catching feature is linear.
644. What is the process of boxing-in the route during navigation?
- a. One of the techniques leaders can use to prevent themselves from making navigational errors is to "box in" the leg or the entire route. This method uses catching features, handrails, and navigational attack points to form boundaries. Creating a box around the leg or route assists in easily recognizing and correcting deviation from the planned leg or route.
645. What are handrails? How are they used during navigation?

- a. Handrails are linear features parallel to the proposed route. The general idea is to use the handrail to keep the unit oriented in the right direction. Guiding off of a handrail can increase the unit's speed while also acting as a catching feature.
646. What are navigational attack points?
- a. Navigational attack points are an obvious landmark near the objective, LOA, or checkpoint that can be found easily. Upon arriving at the navigational attack point, the unit transitions from rough navigation (terrain association or general azimuth navigation) to point navigation (dead reckoning). Navigational attack points typically are labeled as checkpoints.
647. What must be taken into consideration during route planning?
- a. Route planning must take into account enabling tasks specific to tactical movement. These tasks facilitate the overall operation. Tactical movement normally contains some or all of the following enabling tasks:
  - b. Planning movement with global positioning system waypoints or checkpoints utilizing navigation skills.
  - c. Movement to and passage of friendly lines.
  - d. Movement to an objective rally point.
  - e. Movement to a phase line of deployment.
  - f. Movement to a limit of advance.
  - g. Linkup with another unit.
  - h. Movement to a patrol base or assembly area.
  - i. Movement back to and reentry of friendly lines.
648. How do leaders plan for tactical troop movements?
- a. Leaders first identify where they want to end up (the objective or LOA). Then, working back to their current location, they identify all of the critical information and actions required as they relate to the route. For example, navigational aids, tactical positions, known and templated enemy positions, and friendly control measures. Using this information, they break up their route in manageable parts called legs. Finally, they capture their information and draw a sketch on a route chart. There are three decisions leaders make during route planning:
  - b. The type of (or combination of) navigation to use.
  - c. The type of route during each leg.
  - d. The start point and end point of each leg.
649. How does the leader assess the terrain in planning for troop movements?
- a. The leader assesses the terrain in his proposed area of operation. In addition to the standard Army map, the leader may have aerial photographs and terrain analysis overlays from the parent unit, or he may talk with someone familiar with the area. 5-40. To control movement, a leader uses axis of advance, directions of attack, infiltration lanes, phase lines, PLD, checkpoints (waypoints), final coordination line, rally points, AA, and routes.
650. What is terrain association?
- a. Terrain association is the ability to identify terrain features on the ground by the contour intervals depicted on the map. The leader analyzes the terrain using the factors of OAKOC, and identifies major terrain features, contour changes, and

man-made structures along his axis of advance. As the unit moves, he uses these features to orient the unit and to associate ground positions with map locations. The major advantage of terrain association is it forces the leader to continually assess the terrain. This leads to identifying tactically-advantageous terrain and using terrain to the unit's advantage.

651. What is the general azimuth method of navigation?
- For this method, the leader selects linear terrain features; then while maintaining map orientation and a general azimuth, he guides on the terrain feature. An advantage the general azimuth method has is it speeds movement, avoids fatigue, and often simplifies navigation because the unit follows the terrain feature. The disadvantage is it usually puts the unit on a natural line of drift. This method should end like terrain association, with the unit reaching a catching feature or a navigational attack point, then switching to point navigation.
652. How is point navigation accomplished?
- Point navigation, also called dead reckoning, is done by starting from a known point and strictly following a predetermined azimuth and distance. This form of navigation requires a high level of leader control because even a slight deviation over the course of a movement can cause navigation errors. This method uses the dismounted compass and a distance from the pace man (or a vehicle's odometer when mounted) to follow a prescribed route. Point navigation requires the leader to follow these steps:
  - Use the compass to maintain direction.
  - Use the pace man's pace or a vehicle odometer to measure the distance traveled for each leg or part.
  - Review the written description of the route plan to help prevent navigational errors.
653. What are considerations for the use of point navigation?
- When performed correctly, point navigation is very reliable, but time-consuming. It is best used when the need for navigational accuracy outweighs the importance of using terrain. Point navigation is particularly useful when recognizable terrain features do not exist or are too far away to be helpful. For example, deserts, swamps, and thick forest make terrain association difficult. Using point navigation early on in a long movement can stress the compass man and it may be advisable to switch him. One of the problems with point navigation is negotiating severely restrictive terrain or danger areas.
654. How can leaders most effectively use navigation techniques?
- Leaders can benefit from combining the three types of navigation. Terrain association and general azimuth method enable leaders to set a rough compass bearing and move as quickly as the situation allows toward a catching feature or a navigational attack point. Once reached, leaders switch to point navigation by paying close attention to detail, taking as much time as necessary to analyze the situation and find their point. Terrain association and general azimuth method allow for some flexibility in the movement, and do not require the same level of

control as point navigation. Point navigation, on the other hand, enables leaders to precisely locate their objective or point.

655. How does dismounted land navigation compare to mounted land navigation?
- The principles of land navigation while mounted are basically the same as while dismounted. The major difference is the speed of travel. To be effective at mounted land navigation, the travel speed must be considered. When preparing to move, the effects of terrain on navigating mounted vehicles must be determined. You will cover great distances very quickly, and you must develop the ability to estimate the distance you have traveled. Using the odometer on the vehicle can assist with distance traveled but can be misleading on a map due to turns and going up and down hills for instance. Having a mobility advantage helps while navigating. Mobility makes it much easier if you get disoriented to move to a point where you can reorient yourself. When determining a route to be used when mounted, consider the capabilities of the vehicles to be used. Most military vehicles are limited in the degree of slope they can climb and the type of terrain they can negotiate. Swamps, thickly wooded areas, or deep streams may present no problems to dismounted soldiers, but the same terrain may completely stop mounted soldiers. Another method, if you have a vehicle with a stabilized turret, is to align the turret on the azimuth you wish to travel, then switch the turret stabilization system on. The gun tube remains pointed at your destination no matter which way you turn the vehicle. This technique has been proven; it works. It is not harmful to the stabilization system. It is subject to stabilization drift, so use it for no more than 5000 meters before resetting.
656. What three route types do leaders choose to navigate with?
- There are three types of routes leaders can choose from: those which follow linear terrain features; those which follow a designated contour interval; and those which go cross compartment. Terrain association can be used with all three route types. The general azimuth method is used with the contour and terrain feature method. Point navigation is used primarily with cross compartment.
657. What is the process of following terrain?
- Following a terrain feature is nothing more than moving along linear features such as ridges, valleys, and streets. The advantage of this method is the unit is moving with the terrain. This is normally the least physically taxing of the methods. The disadvantage is following terrain features also means following natural lines of drift, which leads to a higher probability of chance contact with the enemy.
658. What is contouring?
- Contouring (remaining at the same height the entire leg) follows the imaginary contour line around a hill or along a ridgeline. Contouring has two advantages. First, it prevents undue climbing or descending. Second, following the contour acts as handrail or catching feature. The disadvantage of contouring is it can be physically taxing.
659. What does cross compartment mean?

- a. Cross compartment means following a predetermined azimuth and usually means moving against the terrain. The advantage of this method is it provides the most direct route from the start point to the end point of the leg or route. There are two primary disadvantages to this type of route. First, this method can be physically taxing. Second, the unit might expose itself to enemy observation.
- 660. What is the best way to manage a navigation route?
  - a. The best way to manage a route is to divide it into segments called "legs." By breaking the overall route into several smaller segments, the leader is able to plan in detail. Legs typically have only one distance and direction. A change in direction usually ends the leg and begins a new one. A leg must have a definite beginning and ending, marked with a control measure such as a checkpoint or phase line. (When using GPS, these are captured as waypoints.) When possible, the start point and end point should correspond to a navigational aid (catching feature or navigational attack point). To develop a leg, leaders first determine the type of navigation and route best suiting the situation. Once these two decisions are made, the leader determines the distance and direction from the start point to the end point. He then identifies critical METT-TC information as it relates to the specific leg. Finally, leaders capture this information and draw a sketch on a route chart.
- 661. What must the leader always know during movement?
  - a. A leader always must know his unit's location during movement. Without accurate location, the unit cannot expect to receive help from supporting arms, integrate reserve forces, or accomplish their mission. To ensure accurate location, a leader uses many techniques, including:
  - b. Executing common skills.
  - c. Designating a compass man and pace man.
  - d. Using Mission Command Systems.
- 662. What navigation tasks must all soldiers know?
  - a. All Infantry Soldiers, particularly leaders, must be experts in land navigation. Important navigation tasks common to all include:
  - b. Locating a point using grid coordinates. Using a compass (day/night).
  - c. Determining location using resection, intersection, or modified resection.
  - d. Interpreting terrain features.
  - e. Measuring distance and elevation.
  - f. Employing Mission Command Systems.
- 663. How does the compass man aid in navigation?
  - a. The compass man assists in navigation by ensuring the lead fire team leader remains on course at all times. The compass man should be thoroughly briefed. His instructions must include an initial azimuth with subsequent azimuths provided as necessary. The platoon leader or squad leader also should designate an alternate compass man. The leader should validate the patrol's navigation with GPS devices.
- 664. What is the role of the pace man in navigation?

- a. The pace man maintains an accurate pace at all times. The platoon leader or squad leader should designate how often the pace man reports the pace. The pace man also should report the pace at the end of each leg. The platoon leader or squad leader should designate an alternate pace man.
665. How do GPSs function?
- a. GPSs receive signals from satellites or land-based transmitters. They calculate and display the position of the user in military grid coordinates as well as in degrees of latitude and longitude. During planning, leaders enter their waypoints into the GPS. Once entered, the GPS can display information such as distance and direction from waypoint to waypoint. During execution, leaders use the GPS to establish their exact location.
666. What is a rally point?
- a. A rally point is a place designated by the leader where the unit moves to reassemble and reorganize if it becomes dispersed. It also can be a place for a temporarily halt to reorganize and prepare for actions at the objective, to depart from friendly lines, or to reenter friendly lines. (Refer to ADRP 1-02 for more information.) Planned and unplanned rally points are common control measures used during tactical movement. Planned ORP, initial rally points (IRP), and reentry rally points (RRP). Unplanned rally points are en route rally points, near side rally points, and far side rally points. Despite the different types of rally points, the actions occurring are generally the same. Prior to departing, leaders designate tentative rally points and determine what actions will occur there. When occupying a rally point, leaders use a perimeter defense to ensure all-around security. Those rally points used to reassemble the unit after an event are likely to be chaotic scenes and will require immediate actions by whatever Soldiers happen to arrive. These actions and other considerations are listed in table 5-1 (page 5-16).
667. How are danger areas addressed during movement planning and execution?
- a. When analyzing the terrain through METT-TC during the TLP, the platoon leader may identify danger areas. When planning the route, he marks the danger areas on his overlay. The term danger area refers to areas on the route where the terrain could expose the platoon to enemy observation, fire, or both. If possible, the platoon leader plans to avoid danger areas, but sometimes he cannot. When the unit must cross a danger area, it does so as quickly and carefully as possible. During planning, the leader designates nearside and far-side rally points. If the platoon encounters an unexpected danger area, it uses the en route rally points closest to the danger area as far-side and near-side rally points. Examples of danger areas include:
    - b. Open areas. Conceal the platoon on the near side and observe the area. Post security to give early warning. Send an element across to clear the far side. When cleared, cross the remainder of the platoon at the shortest exposed distance and as quickly as possible.
    - c. Roads and trails. Cross roads or trails at or near a bend, a narrow spot, or on low ground.

- d. Villages. Pass villages on the downwind side and well away from them. Avoid animals, especially dogs, which might reveal the platoon's presence.
  - e. Enemy positions. Pass on the downwind side. (The enemy might have scout dogs.) Be alert for trip wires and warning devices.
  - f. Minefields. Bypass minefields if at all possible, even if it requires changing the route by a great distance. Clear a path through minefields only if necessary.
  - g. Streams. Select a narrow spot in the stream offering concealment on both banks. Observe the far side carefully. Emplace near- and far-side security for early warning. Clear the far side and cross rapidly but quietly.
  - h. Wire obstacles. Avoid wire obstacles. (The enemy covers obstacles with observation and fire.)
668. Regardless of the type of danger area, when the platoon must cross one independently, or as the lead element of a larger force, it must perform what actions?
- a. Regardless of the type of danger area, when the platoon must cross one independently, or as the lead element of a larger force, it must perform the following:
  - b. When the lead team signals "danger area" (relayed throughout the platoon), the platoon halts.
  - c. The platoon leader moves forward, confirms the danger area, and determines what technique the platoon will use to cross. The platoon sergeant also moves forward to the platoon leader.
  - d. The platoon leader informs all squad leaders of the situation, the near-side and far-side rally points.
  - e. The platoon sergeant directs positioning of the near-side security (usually conducted by the trail squad). These two security teams may follow him forward when the platoon halts and a danger area signal is passed back.
  - f. The platoon leader reconnoiters the danger area and selects the crossing point providing the best cover and concealment.
  - g. Near-side security observes to the flanks and overwatches the crossing.
  - h. When the near-side security is in place, the platoon leader directs the far-side security team to cross the danger area.
  - i. The far-side security team clears the far side.
  - j. The far-side security team leader establishes an observation post forward of the cleared area.
  - k. The far-side security team signals to the squad leader the area is clear. The squad leader relays the message to the platoon leader.
  - l. The platoon leader selects the method the platoon will use to cross the danger area.
  - m. The platoon quickly and quietly crosses the danger area.
  - n. Once across the danger area, the main body begins moving slowly on the required azimuth.
  - o. The near-side security element, controlled by the platoon sergeant, crosses the danger area where the platoon crossed. They may attempt to cover tracks left by the platoon.

- p. The platoon sergeant ensures everyone crosses and sends up the report.
  - q. The platoon leader ensures accountability and resumes movement at normal speed.
669. Who determines the method used to cross danger areas?
- a. The platoon leader or squad leader decides how the unit will cross based on the time he has, size of the unit, size of the danger area, fields of fire into the area, and amount of security he can post. An Infantry platoon or squad may cross all at once, in buddy teams, or one Soldier at a time. A large unit normally crosses its elements one at a time. As each element crosses, it moves to an overwatch position or to the far-side rally point until told to continue movement.
670. What is a linear danger area?
- a. A linear danger area is an area where the platoon's flanks are exposed along a relatively narrow field of fire. Examples include streets, roads, trails, and streams. The platoon crosses a linear danger area in the formation and location specified by the platoon leader. (See figure 5-4.)
671. How are large open areas crossed?
- a. If the large open area is so large the platoon cannot bypass it due to the time needed to accomplish the mission, a combination of traveling overwatch and bounding overwatch is used to cross the large open area. (See figure 5-5.) The traveling overwatch technique is used to save time. The squad or platoon moves using the bounding overwatch technique any point in the open area where enemy contact may be expected. The technique also may be used once the squad or platoon comes within range of enemy small-arms fire from the far side (about 250 meters). Once beyond the open area, the squad or platoon re-forms and continues the mission. The leader designates a rally point on the far side with the movement azimuth. He then decides which side of the open area to contour around (after considering the distance, terrain, cover and concealment), and moves around the open area. He uses the wood line and vegetation for cover and concealment. When the squad or platoon arrives at the rally point on the far side, the leader reassumes the azimuth to the objective area and continues the mission. (See figure 5-6, page 5-20.)
672. How are danger areas bypassed using 90 degree turns?
- a. The squad or platoon turns 90 degrees to the right or left around the open area and moves in the direction of travel. Once the squad or platoon has passed the danger area, the unit completes the box with another 90-degree turn and arrives at the far-side rally point, then continues the mission. The pace counts of the offset and return legs is not added to the distance of the planned route. (See figure 5-6.)
673. How do elements address danger areas when mounted?
- a. Infantry platoons and squads must be prepared to negotiate danger areas when mounted. The discussion of leader and unit action are deliberately generic because of the wide variety of scenarios in which leaders might find themselves. When moving mounted, units normally travel on roads, trails, and in unrestrictive terrain. Mounted units are typically vulnerable in the type of terrain favored by

Infantry such as restrictive and close terrain. In addition, areas such as bridges, road junctions, defiles, and curves (denying observation beyond the turn) are also considered danger areas. When leaders identify a danger area, they determine the appropriate movement technique to employ (traveling, traveling overwatch, or bounding overwatch). They then dismount their Infantry squads and clear the area or do a combination of both.

674. What should be done to address danger areas if time and terrain permit it?
- a. If time and terrain permit, the unit should either bypass a danger area or dismount Infantry to reconnoiter and clear it. However, the distances between covered and concealed positions may make this impractical. If time constraints prevent these options, the unit uses a combination of traveling overwatch and bounding overwatch to negotiate the danger area. As with dismounted actions at a danger area, the leader must be prepared to quickly transition to maneuver in case the unit makes contact with the enemy. The lead element moves continuously along the covered and concealed routes giving it the best available protection from possible enemy observation and direct fire. (See figure 5-7.) The trail element moves at variable speeds providing continuous overwatch, keeping contact with the lead element, and stopping periodically to get a better look. The trail element stays close enough to ensure mutual support of the lead element. However, it must stay far enough to the rear to retain freedom of maneuver in case an enemy force engages the lead element. With bounding overwatch, one section always is stopped to provide overwatching fire. The unit executing bounding overwatch uses either the successive or alternate bounding method.
675. How are danger areas crossed when mounted?
- a. The commander of the lead vehicle immediately notifies the platoon leader when he encounters an obstacle or other danger area. If needed, Soldiers dismount and take advantage of available cover and concealment to investigate these areas. (See figure 5-8.) If possible, the vehicle is moved off the road into a covered or concealed position. Weapons from the vehicle cover the advance of the dismounted element. Designated Soldiers reconnoiter these places under cover of the weapons in the vehicle. Obstacles are marked and bypassed, if possible. When they cannot be bypassed, they are removed cautiously. Side roads intersecting the route of advance are investigated. Soldiers from one vehicle secure the road junction. One or two vehicles investigate the side road. The amount of reconnaissance on side roads is determined by the leader's knowledge of the situation. Soldiers investigating side roads do not move past supporting distance of the main body.
676. What is a defile? What are common examples of defiles?
- a. A defile is a narrow passage that constricts the movement of Soldiers. It is the ideal ambush site. If a defile is encountered that forces the platoon to move in single vehicle file for a significant distance the platoon leader might choose to lead with dismounted Infantry. (See figure 5-9.) Common defiles for mechanized platoons are roads or trails across streams, through swamps or heavy forests, or narrow valleys in rolling or mountainous terrain. When clearing a defile, the

dismount element clears each side far enough from the choke point to make sure that there are no ambushes. It also checks the surface for evidence of mines or IEDs. Because contact should be expected at defiles, the leading squad should use bounding overwatch.

677. What helps the PL control the platoon when it makes contact with the enemy?
- An increased awareness of the situation helps the platoon leader control the platoon when it makes contact with the enemy. If the platoon makes contact in or near the danger area, it moves to the designated rally points. Based on the direction of enemy contact, the leader designates the far- or near-side rally point. During limited visibility, he also can use his laser systems to point out the rally points at a distance. If the platoon has a difficult time linking up at the rally point, the first element to arrive should mark the rally point with an infrared light source. This helps direct the rest of the platoon to the location. During movement to the rally point, position updates allow separated elements to identify each other's locations. These updates help them linkup at the rally point by identifying friends and foes.
678. What is the purpose of the relief in place?
- A relief in place is a tactical enabling task in which all or part of a unit is replaced in an area by the incoming unit. The responsibilities of the replaced elements for mission and assigned area of operation are transferred to the incoming unit. The incoming unit continues the operations as ordered. (Refer to FM 3-90-2 for more information.) There are three techniques for conducting a relief: sequentially, simultaneously, or staggered, which are described as the following:
  - A sequential relief occurs when each element within the relieved unit is relieved in succession, from right to left or left to right, depending on how it is deployed.
  - A simultaneous relief occurs when all elements are relieved at the same time.
  - A staggered relief occurs when the leader relieves each element in a sequence determined by the tactical situation, not its geographical orientation.
679. What are the characteristics of simultaneous relief?
- Simultaneous relief takes the least time to execute, but is more easily detected by the enemy. Sequential or staggered reliefs can take place over a significant amount of time. These three relief techniques can occur regardless of the range of military operations in which the unit is participating. A relief also can be characterized as either deliberate or hasty, depending on the amount of planning and preparations associated with the relief. The major differences are the depth and detail of planning and, potentially, the execution time. Detailed planning generally facilitates shorter execution time by determining exactly what the leader believes needs to be done and resources needed to accomplish the mission. Deliberate planning allows the commander and staff to identify, develop, and coordinate solutions to most potential problems before they occur and to ensure the availability of resources when and where they are needed.
680. What occurs once an order to conduct a relief in place is received?
- Once ordered to conduct a relief in place, the leader of the relieving unit contacts the leader of the unit to be relieved. The collocation of unit command posts also

helps achieve the level of coordination required. If the relieved unit's forward elements can defend the area of operation, the relieving unit executes the relief in place from the rear to the front. This facilitates movement and terrain management.

681. What actions does the PL take when planning for a relief in place?
- a. When planning for a relief in place, the Infantry platoon leader takes the following actions:
  - b. Issues an order immediately
  - c. Sends himself or key leader with platoon advance party to conduct detailed reconnaissance and coordination.
  - d. As the relieving unit, adopts the outgoing unit's normal pattern of activity as much as possible.
  - e. As the relieving unit, determines when the platoon will assume responsibility for outgoing unit's position.
  - f. As the relieving unit, collocates with the relieved unit's headquarters.
  - g. Maximizes operations security to prevent the enemy from detecting the relief operation.
  - h. Plans for relief of sustainment elements after combat elements are relieved.
  - i. As the unit being relieved, plans for transfer of excess ammunition, wire, petroleum, oil, and lubricants, and other materiel of tactical value to the incoming unit.
  - j. Controls movement by reconnoitering, designating, and marking routes, and providing guides.
682. When the incoming and outgoing unit leaders meet to exchange tactical information, they conduct a joint reconnaissance of the area, and complete other required coordination. The two leaders carefully address passage of command and jointly develop contingency actions to deal with enemy contact during the relief. This process usually includes coordination of what information?
- a. Location of vehicle and individual fighting positions (to include hide, alternate, and supplementary positions). Leaders should verify fighting positions both by conventional map and using the latest Mission Command Systems available.
  - b. The enemy situation.
  - c. The outgoing unit's tactical plan, including graphics, company and platoon fire plans, and individual vehicles' area of operations sketches.
  - d. Direct and indirect fire support coordination, including indirect fire plans and time of relief for supporting artillery and mortar units.
  - e. Types of weapons systems being replaced.
  - f. Time, sequence, and method of relief.
  - g. Location and disposition of obstacles, and time when the leaders will transfer responsibility.
  - h. Supplies and equipment to be transferred.
  - i. Movement control, route priority, and placement of guides.
  - j. Command and signal information.
  - k. Maintenance and logistical support for disabled vehicles.

- I. Visibility considerations.
683. Who retains AO responsibility when conducting the relief?
- When conducting the relief, the outgoing leader retains responsibility of the area of operation and mission. He exercises operational control over all subordinate elements of the incoming unit having completed their portion of the relief. Responsibility passes to the incoming leader when all elements of the outgoing unit are relieved and adequate communications are established.
684. What is the most time consuming relief method?
- Sequential relief is the most time-consuming relief method. The relieving unit moves to an AA to the rear of the unit to be relieved. Subordinate elements are relieved one at a time. This can occur in any order, with the relief following this general sequence:
  - The outgoing and incoming unit's collocates their headquarters and trains elements to facilitate mission command and transfer of equipment, ammunition, fuel, water, and medical supplies.
  - The first element being relieved (such as a platoon) moves to its alternate fighting positions or battle positions while the relieving element moves into the outgoing element's primary fighting positions. The incoming element occupies vehicle and individual fighting positions as appropriate.
  - Incoming and outgoing elements complete the transfer of equipment and supplies.
  - The relieved element moves to the designated assembly area behind its position.
  - Once each outgoing element clears the rally point en route to its assembly area, the next relieving element moves forward.
685. What is the fastest method of relief?
- Simultaneous relief is the fastest, but least secure, method. All outgoing elements are relieved at once, with the incoming unit usually occupying existing positions, including battle positions, and vehicle and individual fighting positions. The relief takes place in this general sequence:
  - Outgoing elements move to their alternate battle positions or vehicle and individual positions.
  - Incoming elements move along designated routes to the outgoing elements' primary fighting positions.
  - The units complete the transfer of equipment and supplies.
  - Relieved elements move to the designated unit assembly area.
686. What is a linkup? What are considerations for establishing a linkup?
- A linkup is a meeting of friendly ground forces, which occurs in a variety of circumstances. It happens when an advancing force reaches an objective area previously seized by an airborne or air assault; when an encircled element breaks out to rejoin friendly forces or a force comes to the relief of an encircled force; and when converging maneuver forces meet. Both forces may be moving toward each other, or one may be stationary. Whenever possible, joining forces exchange as much information as possible before starting an operation.
  - The headquarters ordering the linkup establishes—

- c. A common operational picture.
  - d. Command relationship and responsibilities of each force before, during, and after linkup.
  - e. Coordination of direct and indirect fire support before, during, and after linkup, including control measures.
  - f. Linkup method.
  - g. Recognition signals and communication procedures to use, including pyrotechnics, armbands, vehicle markings, gun-tube orientation, panels, colored smoke, lights, and challenge and passwords.
  - h. Operations to conduct following linkup.
687. Who establishes control measures for units conducting the linkup?
- a. The leader who orders the linkup establishes control measures for units conducting the linkup—
  - b. Assigns each unit an area of operations defined by left and right boundaries and a restrictive fire line also acts as a limit of advance.
  - c. Establishes a no fires area around one or both units and establishes a coordinated fire line beyond the area where the unit's linkup.
  - d. Establishes a no fires area to ensure unclear air-delivered munitions or indirect fires do not cross either the restrictive fire line or a boundary and impact friendly forces.
  - e. The coordinated fire line allows available fires to quickly attack enemy targets approaching the area where the linkup is to occur. The linkup forces use the linkup points established by the leader to make physical contact with each other. The leader designates alternate linkup points, since enemy action may interfere with the primary linkup points. Control measures are adjusted during the operation to provide for freedom of action as well as positive control.
688. What are the two linkup methods?
- a. There are two linkup methods. The preferred method is when the moving force has an assigned LOA near the other force and conducts the linkup at predetermined contact points. Units then coordinate additional operations. The leader uses the other method during highly fluid mobile operations when the enemy force escapes from a potential encirclement, or when one of the linkup forces is at risk and requires immediate reinforcement. In this method, the moving force continues to move and conduct long-range recognition via radio or other measures, stopping only when it makes physical contact with the other force.
689. How does the infantry platoon conduct linkup activities?
- a. The Infantry platoon and squad conducts linkup activities independently or as part of a larger force. Within a larger unit, the platoon may lead the linkup force. The linkup consists of three phases. The following actions are critical to the execution of a linkup.
690. What is phase 1 of a linkup activity?

- a. During this phase, the forces conducting a linkup establish both radio and digital communications before reaching direct fire range. The lead element of each linkup force should monitor the radio frequency of the other friendly force.
691. What is phase 2 of a linkup activity?
- a. Coordination.
  - b. Before initiating movement to the linkup point, the forces must coordinate necessary tactical information including the following:
  - c. The known enemy situation.
  - d. Mission Command Systems, if equipped, filter setting and address book commonality.
  - e. Type and number of friendly vehicles and number of vehicles equipped with Mission Command Systems.
  - f. Disposition of stationary forces (if either unit is stationary).
  - g. Routes to the linkup point and rally point, if any.
  - h. Direct and indirect fire control measures.
  - i. Near recognition signals.
  - j. Communications information.
  - k. Sustainment responsibilities and procedures.
  - l. Finalized location of the linkup point and rally points, if any.
  - m. Special coordination, such as those covering maneuver instructions or requests for medical support. All units or elements involved in the linkup enforce strict fire control measures to help prevent fratricide and friendly fire. Moving or converging forces must easily recognize linkup points and RFL. Linkup elements take the following actions:
  - n. Conduct far recognition using radios or Mission Command Systems, if equipped.
  - o. Conduct short-range (near) recognition using the designated signal.
  - p. Complete movement to the linkup point.
  - q. Establish local security at the linkup point.
  - r. Conduct additional coordination and linkup activities, as necessary.
692. What options are available to PL in terms of employing vehicles with rifle squads?
- a. There are several options available to the platoon leader when augmented with vehicles. The platoon leader should employ the vehicles in conjunction with the rifle squads so each complements the other. Some options include—
  - b. Employ them to support the Infantry rifle squads.
  - c. Employ them separately to provide heavy direct fires or antiarmor fires.
  - d. Leave in hide positions.
  - e. Displace them to a secure location.
693. What principles guide the leader in selecting vehicle movement formations?
- a. The principles of METT-TC guide the leader in selecting formations for combat vehicles and Infantry. The same principles for selecting combat formations with Infantry Soldiers apply when selecting combat formations for combat vehicles moving with Infantry Soldiers. The platoon leader can employ the fundamental column, line, echelon, vee, and wedge formations for combat vehicles to meet the needs of his mission. The column, line, echelon, vee, and wedge are

fundamental combat formations for combat vehicles. After the leader combines the mounted and Infantry elements into one combat formation, it is his responsibility to ensure proper communication and fire control measures are implemented to maximize lethality and prevent fratricide. After selecting the combat formations for combat vehicles and Infantry, the leader can decide whether to lead with combat vehicles, Infantry Soldiers, or a combination of the two. The default technique is to lead with Infantry Soldiers.

694. When would Infantry leaders lead formations with tanks?
- Infantry leaders may choose to lead with tanks (see figure 5-13) when—
  - There is an armored or tank threat.
  - Moving through open terrain with limited cover or concealment.
  - There is a confirmed enemy location/direction.
  - There are templated enemy antipersonnel minefields.
695. When would Infantry leaders centrally locate tanks in their formations?
- Infantry leaders may choose to centrally locate the tanks in their formation (see figure 5-14, page 5-36) when—
  - Flexibility is desired.
  - The enemy location is unknown.
  - There is a high threat of dismounted enemy antitank teams.
  - The ability to mass the fires of the combat vehicles quickly in all directions is desired.
696. How is mounted movement compared to dismounted movement?
- Mounted movement is similar to dismounted movement. Depending on the vehicle type, a platoon may have a squad in multiple vehicles. Units with more than four vehicles should consider splitting the vehicles into two or more sections and control these sections much the same way squads control their teams. Units augmented with four or more vehicles can use any of the seven formations. They use them within the context of the three movement techniques (See chapter 2, section IV for more information.) and should be prepared to execute immediate action drills when transitioning to maneuver. When the mounted unit stops, they use the coil and herringbone formations to ensure security. In mounted successive bounds, vehicles keep their relative positions in the column. The first and second vehicles operate as a section in moving from one observation point to another. The second vehicle is placed in a concealed position, occupants dismounting if necessary, to cover movement of the first vehicle to an observation point. On reaching this point, occupants of the first vehicle observe and reconnoiter, dismounting if necessary. When the area is determined to be clear, the second vehicle is signaled forward to join the first vehicle. The commander of the first vehicle observes the terrain to the front for signs of enemy forces and selects the next stopping point. The first vehicle then moves out and the process is repeated. Movement distance of the lead vehicle does not exceed the limit of observation or the range of direct fire support from the second vehicle. The lead vehicle and personnel are replaced frequently to ensure constant alertness. The other vehicles in the column move by bounds from one concealed position to

another. Each vehicle maintains visual contact with the vehicle ahead but avoids closing up. (See figure 5-17.) However, as a rule, vehicles always work in pairs and should never be placed in a situation where one vehicle is not able to be supported by the second.

697. How are vehicles to bound?
- In mounted alternate bounds, all except the first two vehicles keep their relative places in the column. The first two vehicles alternate as lead vehicles on each bound. Each covers the bound of the other. This method provides a more rapid advance than movement by successive bounds, but is less secure. Security is obtained by the vehicle commander who assigns each Soldier a direction of observation (to the front, flank[s], or rear). This provides each vehicle with some security against surprise fire from every direction, and provides visual contact with vehicles to the front and rear.
698. What is the mission role of the MRAP?
- The mine resistant ambush protected (MRAP) vehicle's mission role is similar to the Stryker in many respects. MRAP provides small units with protected mobility and mounted firepower. Squads and platoons use MRAP vehicles to conduct and support both mounted and dismounted missions.
699. What is the MRAP designed for?
- MRAP is designed for distinct purpose of increasing the protection of Soldiers against small-arms fire and detonation of mines or IEDs employed singularly or in combination. With increased protection, an MRAP vehicle can increase its standoff to potential threats or move through potential danger areas when METT-TC dictates the increased risk.
700. How do units deploy MRAP vehicles?
- Units employ MRAP vehicles by understanding the vehicle's capabilities and limitations while integrating protection with training to standard, detailed planning, smart tactics, and well-rehearsed drills, MRAP vehicles operate under the full spectrum of weather and terrain conditions, to include off-road operation across firm soil that supports the weight of the vehicle. Exiting the vehicle in response to an ambush and loading or unloading equipment and casualties are difficult due to the steps and back ramp on some MRAP variants. Units must train and rehearse individuals and teams to streamline the process for mounting and dismounting operations under various conditions, especially in an emergency. The field of view from the armored windows is limited for Soldiers, which results in blind spots and overall poor visibility.
701. What must be available to leaders and soldiers operating MRAP vehicles?
- Trafficability studies/products must be available to the leaders and Soldiers operating MRAP vehicles. They can factor area of operation-specific trafficability and terrain limitations into their risk management and combat planning processes. Figure 5-18 shows possible mounted movement with MRAP vehicles both file/column or staggered. The leader based on information and intelligence, commander's intent and METT-TC makes the determination which mounted maneuvering technique will be used.

702. What is a convoy?

- a. A convoy is a group of vehicles organized for purposes of control and orderly movement with or without escort protection moving over the same route at the same time under one commander. The platoon conducts motor marches, usually in trucks or armored protected vehicles. Some of the special considerations may include:
- b. Protection. Sandbag the bottom of non-mine protected trucks to protect from mines. Ensure crew-served weapons are manned with qualified gunners.
- c. Observation. Ensure Soldiers sit facing outward and remove bows and canvas to allow 360-degree observation and rapid dismount.
- d. Inspection. Inspect vehicles and drivers to ensure they are ready. Perform before, during, and after preventive maintenance checks and services (PMCS). Ensure drivers' knowledge of the route, speed, and convoy distance.
- e. Loading. Keep fire team, squad, and platoon integrity when loading vehicles. Fire teams and squads are kept intact on the same vehicle. Platoon vehicles are together in the same march serial. Key weapons and equipment are cross loaded with platoon leader and platoon sergeant in different vehicles.
- f. Rehearsals. Rehearse immediate action to enemy contact (near and far ambushes, air attack). Ensure drivers know what to do.
- g. Air Guards. Post air guards for each vehicle, with special consideration on the placement of crew- served weapons.

703. What is a constant factor of tactical movement?

- a. Maintaining security is a constant theme of tactical movement. Security can prevent enemy surprise. Security requires everyone to concentrate on the enemy. Though this seems simple enough, in practice, it is not. This means leaders and Soldiers must be proficient in the basics of tactical movement. Failure to attain proficiency diverts attention away from the enemy, thereby directly reducing the unit's ability to fight. Platoons and squads enhance their own security during movement through the use of covered and concealed terrain; the use of the appropriate combat formation and movement technique; the actions taken to secure danger areas during crossing; the enforcement of noise, light, and radiotelephone discipline; and use of proper individual camouflage techniques. During planning and preparation for movement, leaders analyze the enemy situation, determine known and likely enemy positions, and develop possible enemy courses of action. After first considering the enemy, leaders determine what security measures to emplace during tactical movement.

704. What do leaders have to decide when conducting tactical movements?

- a. Leaders have to decide whether they are going to move aggressively to make contact, or stealthily to avoid contact. Either way, leaders have to anticipate enemy contact throughout. If possible, leaders should avoid routes with obvious danger areas such as built-up areas, roads, trails, and known enemy positions. If these places cannot be avoided, risk management should be conducted to develop ways to reduce danger to the unit. If stealth is desired, the route should avoid contact with local inhabitants, built-up areas, and natural lines of drift.

705. What is the purpose of movement techniques?
- Movement techniques help the leader manage the amount of security his unit has during movement. Traveling is the least secure and used when contact is unlikely. Traveling overwatch is used when contact is likely but not imminent. Bounding overwatch is used when contact is imminent. The leader establishes the PLD to indicate where the transition from traveling overwatch to bounding overwatch should occur. When in contact with the enemy, the unit transitions from movement to maneuver (fire and movement) while the leader conducts actions on contact.
706. What must the leader consider regarding terrain when planning movements?
- When planning movements, the leader must consider how terrain affects security while simultaneously considering METT-TC. Some missions may require the unit to move on other than covered and concealed routes. While the leader may not be able to prevent the unit's detection, he can ensure it moves on the battlefield in a time and place for which the enemy is unprepared. Particularly when moving in the open, the leader must avoid predictability and continue to use terrain to his advantage.
707. What must the leader ensure regarding their troops use of camouflage?
- Leaders must ensure camouflage used by their Soldiers is appropriate to the terrain and season. Platoon SOPs specify elements of noise and light discipline. If Soldiers need more illumination than an image intensifier can provide in infrared mode during movement, they should use additional infrared light sources. The combination should provide the light needed with the least risk of enemy detection. When using infrared light, leaders must consider the enemy's night vision and infrared capabilities. For instance, an enemy with night vision capability can send infrared light signals, and he can concentrate direct and indirect fire on a platoon using infrared light.
708. Units conducting tactical movement frequently make temporary halts. What is used to protect the force at these moments?
- Units conducting tactical movement frequently make temporary halts. These halts range from brief to extended periods. For short halts, platoons use a cigar-shaped perimeter intended to protect the force while maintaining the ability to continue movement. When the platoon leader decides not to immediately resume tactical movement, he transitions the platoon to a perimeter defense. The perimeter defense is used for longer halts or during lulls in combat.
709. What is cigar shaped perimeter?
- When the unit halts, if terrain permits, Soldiers should move off the route and face out to cover the same sectors of fire they were assigned while moving, allowing passage through the center of the formation. This results in a cigar-shaped perimeter. Actions by subordinate leaders and their Soldiers occur without an order from the leader. Soldiers are repositioned as necessary to take advantage of the best cover, concealment, and fields of fire.
710. What is a perimeter defense used for?

- a. When operating independently, the platoon uses a perimeter defense during extended halts, resupply, and issuing platoon orders or lulls in combat. Normally the unit first occupies a short halt formation. Then after conducting a leader's reconnaissance of the position and establishing security, the unit moves into the perimeter defense.
711. How does the platoon use the coil, herringbone, and triangle formations?
- a. The platoon employs the coil, herringbone, and triangle "Y" formations to maintain 360-degree security when stationary. The coil provides all-round security and observation when the platoon is stationary. The patrol also uses the coil for tactical refueling, resupply, and issuing patrol orders. When in a coil, leaders post security. The patrol leader uses the herringbone and triangle during temporary halts or when getting off a road to allow another unit to pass. It lets the patrol move to covered and concealed positions off a road or from an open area and establishes all-round security without issued detailed instructions. The truck commander repositions their vehicles as necessary to take advantage of the best cover, concealment, and fields of fire. Fire team members dismount and establish security.
712. Why are movement operations conducted?
- a. Movement operations are conducted to reposition units, personnel, supplies, equipment, and other critical combat elements in support of current or future operations. Other movement forms may include air movement, movement by water, and movement during limited visibility.
713. What are examples of air movement operations?
- a. Air movement operations include both airdrops and air landings. Planning for air movements is similar to other missions. In addition to the normal planning process, however, air movement planning must cover specific requirements for air infiltration and exfiltration:
  - b. Coordinate with the supporting aviation units.
  - c. Plan and rehearse with the supporting aviation unit before the mission if possible. If armed escort accompanies the operation, the platoon leader and company commander, as well as the assault or general support aviation unit, should ensure aircrews are included in the planning and rehearsals.
  - d. Gather as much information as possible, such as the enemy situation, in preparation of the mission.
  - e. Plan and coordinate joint suppression of enemy air defense.
  - f. The unit also should plan different ingress and egress routes, covering the following:
  - g. Planned insertion and extraction points.
  - h. Emergency extraction rally points.
  - i. Lost communications extraction points.
714. What are requirements for planned extraction points and emergency extraction rally point?
- a. Planned extraction points and emergency extraction rally points require communications to verify the preplanned pickup time or coordinate an

emergency pickup time window. Planning must include details for extraction when communications between higher headquarters and unit are lost. The lost communications extraction point involves infiltration teams moving to the emergency extraction point after two consecutive missed communications windows and waiting up to 24 hours for pickup.

715. What are considerations for crossing water obstacles?
  - a. Platoons avoid crossing water obstacles when possible. Before crossing, however, leaders should identify weak or nonswimmers and pair them with good swimmers in their squads.
716. How does the platoon cross bodies of water while limiting danger to the unit?
  - a. When platoons or squads must move into, through, or out of rivers, lakes, streams, or other bodies of water, they treat the water obstacle as a danger area. While on the water, the platoon is exposed and vulnerable. To offset the disadvantages, the platoon—
  - b. Moves during limited visibility.
  - c. Disperses.
  - d. Moves near the shore to reduce the chances of detection.
  - e. 5-150. When moving in more than one boat, the platoon—
  - f. Maintains tactical integrity and self-sufficiency.
  - g. Cross loads essential Soldiers and equipment.
  - h. Ensures the radio is with the leader. If boats are not available, several other techniques can be used such as—
  - i. Swimming.
  - j. Poncho rafts.
  - k. Air mattresses.
  - l. Waterproof bags.
  - m. A 7/16-inch rope used as a semisubmersible, one-rope bridge, or safety line.
  - n. Water wings (made from a set of trousers).
717. What must the platoon be able to accomplish at night?
  - a. At night or when visibility is poor, a platoon must be able to function in the same way as during daylight. It must be able to control, navigate, and maintain security, move, and stalk at night or during limited visibility.
718. What methods aid in control when visibility is poor?
  - a. When visibility is poor, the following methods aid in control—
  - b. Use of night vision devices.
  - c. Infrared chemical lights.
  - d. Leaders move closer to the front.
  - e. The platoon reduces speed.
  - f. Soldiers use two small strips of luminous tape on the rear of their helmet, allowing Soldiers behind them to see them from the rear.
  - g. Leaders reduce the interval between Soldiers and units to make sure they can see each other.
  - h. Leaders conduct headcounts at regular intervals and after each halt to ensure personnel accountability

719. What do leaders use to aid in navigation during poor visibility?
- To assist in navigation during limited visibility, leaders use—
  - Terrain association (general direction of travel coupled with recognition of prominent map and ground features).
  - Dead reckoning, compass direction and specific distances or legs. (At the end of each leg, leaders should verify their location.)
  - Movement routes that parallel identifiable terrain features.
  - Guides or marked routes.
  - Mission Command Systems.
720. How are squads and platoons maintain stealth and security in night moves?
- For stealth and security in night moves, squads and platoons—
  - Designate a point man to maintain alertness, the lead team leader to navigate, and a pace man to count the distance traveled. Alternate compass and pace men are designated.
  - Ensure good noise and light discipline.
  - Use radio-listening silence.
  - Camouflage Soldiers and equipment.
  - Use terrain to avoid detection by enemy surveillance or night vision devices.
  - Make frequent listening halts.
  - Mask the sounds of movement with artillery fires.
721. What is a patrol?
- A patrol is a detachment sent out by a larger unit to conduct a specific mission that operates semi-independently and return to the main body upon completion of mission. Patrolling fulfills the Infantry's primary function of finding the enemy to engage him or report his disposition, location, and actions. Patrols act as ground sensors or early warnings for larger units and the planned action determines the type of patrol. This chapter provides an overview on patrolling by the Infantry platoon and squad and discusses in detail; combat and reconnaissance patrols.
722. Who is responsible for the patrol?
- If a patrol is made up of a single unit, such as a rifle squad sent out on a reconnaissance patrol, the squad leader is responsible. If a patrol is made up of mixed elements from several units, then the senior officer or NCO is designated as the patrol leader. This temporary title defines his role and responsibilities during the mission. The patrol leader may designate an assistant, normally the next senior man in the patrol, and subordinate element leaders he requires.
723. What can a patrol consist of?
- A patrol can consist of a unit as small as a fire team but are usually squad and platoon-sized. For larger combat tasks such as for a raid, the patrol is sometimes a company. The planned action determines if the patrols are combat and reconnaissance. Regardless of the type of patrol, the unit needs a clear task and purpose.
724. What is the role of the leader of any patrol?
- The leader of any patrol, regardless of the type or the tactical task assigned, has an inherent responsibility to prepare and plan for possible enemy contact while

on the mission. Patrols always are assigned a tactical mission. On his return to the main body, the patrol leader reports to the commander and describes the patrol's actions, observations, and condition.

725. What are the purposes of patrolling?
- There are several specific purposes which can be accomplished by patrolling
  - Gathering information on the enemy, on the terrain, or on the populace.
  - Regaining contact with the enemy or with adjacent friendly forces.
  - Engaging the enemy in combat to destroy him or inflict losses.
  - Reassuring or gaining the trust of a local population.
  - Preventing public disorder.
  - Deterring and disrupting insurgent or criminal activity.
  - Providing unit security.
  - Protecting essential infrastructure or bases.
726. How are patrols organized?
- A patrol is organized to perform specific tasks. It must be prepared to secure itself, navigate accurately, identify and cross danger areas, and reconnoiter the patrol objective. If it is a combat patrol, it must be prepared to breach obstacles, assault the objective, and support those assaults by fire. Additionally, a patrol must be able to conduct detailed searches as well as deal with casualties and detainees. The leader identifies those tasks that must be or will likely be conducted during the patrol and decides which elements will perform which tasks. Where possible, he should maintain squad and fire team integrity. Squads and fire teams may perform more than one task during the time a patrol is away from the main body or it may be responsible for only one task. The leader must plan carefully to ensure he has identified and assigned all required tasks in the most efficient way. Elements and teams for platoons conducting patrols include the common and specific elements for each type of patrol. The following elements are common to all patrols.
727. How do leaders plan and prepare for patrols?
- Leaders plan and prepare for patrols using TLP. They must identify required actions on the objective, plan backward to the departure from friendly lines, then forward to the reentry of friendly lines.
  - The patrol leader normally will receive the OPORD in the battalion or company command post where communications are good and vital personnel are available for coordination. Because patrols act semi-independently, move beyond the supporting range of the parent unit, and often operate forward of friendly units, coordination must be thorough and detailed.
  - Patrol leaders may routinely coordinate with elements of the battalion staff directly. Unit leaders should develop tactical SOPs beyond what is found in ATP 3-90.90 with detailed checklists to preclude omitting items vital to the mission accomplishment.
728. What information is coordinated between the leader and battalion staff, company commander or ColST?

- a. 6-21. Items coordinated between the leader and battalion staff, company commander or ColST include:
  - b. Changes or updates in the enemy situation.
  - c. Best use of terrain for routes, rally points, and patrol bases.
  - d. Light and weather data.
  - e. Changes in the friendly situation.
  - f. The attachment of Soldiers with special skills or equipment (engineers, sniper teams, military working dog teams, forward observers, or interpreters).
  - g. Use and location of landing or pickup zones.
  - h. Departure and reentry of friendly lines.
  - i. Direct and indirect fire support on the objective and along the planned routes, including alternate routes.
  - j. Rehearsal areas and times. The terrain for rehearsal should be similar to the objective, to include buildings and fortifications if necessary. Coordination for rehearsals includes security of the area, use of blanks, pyrotechnics, and live ammunition.
  - k. Special equipment and ammunition requirements.
  - l. Transportation support, including transportation to and from rehearsal sites.
  - m. Signal plan, call signs frequencies, code words, pyrotechnics, and challenge and password.
- 729. What is the purpose of a leader's reconnaissance?
  - a. The leader's reconnaissance reconnoiters the objective just before an attack or prior to sending elements forward to locations where they will support by fire. It confirms the condition of the objective, gives each subordinate leader a clear picture of the terrain where he will move, and identifies parts of the objective he must seize or suppress. The leader's reconnaissance patrol can consist of the unit leader or representative, the leaders of major subordinate elements, and (sometimes) security personnel and unit guides. It gets back to the main body as quickly as possible. The leader can use the aid in (see figure 6-1) to help in remembering the five-point contingency plan which is used when a leader or other individuals separate from the main body.
- 730. What should a patrol leader conduct a leader's reconnaissance?
  - a. A patrol leader should conduct a leader's reconnaissance when time or the situation allows. The plan includes a leader's reconnaissance of the objective once the platoon or squad establishes the ORP. During his reconnaissance, the leader pinpoints the objective, selects positions for his squads, teams and adjusts his plan based upon his observation of the objective. Each type of patrol requires different tasks during the leader's reconnaissance, and the leader takes different elements depending upon the patrol's mission. The leader ensures the objective remains under continuous observation once deciding to return to the ORP. The leader designates a rally point and plans for adequate time to return to the ORP, complete his plan, disseminate information, issue orders and instructions, and allow his squads to make additional preparations.
- 731. What elements are considered when the patrol leader completes his patrol plan?

- a. **ESSENTIAL AND SUPPORTING TASKS**
  - b. The leader ensures all essential tasks have been assigned to be performed on the objective, at rally points, at danger areas, at security or observation locations, along the routes, and at passage lanes.
  - c. **KEY TRAVEL AND EXECUTION TIMES**
  - d. The leader estimates time requirements for movement to the objective, leader's reconnaissance of the objective, establishment of security and surveillance, compaction of all assigned tasks on the objective, movement to an ORP to debrief the platoon, and return through friendly lines.
  - e. **PRIMARY AND ALTERNATE ROUTES**
  - f. The leader selects primary and alternate routes to and from the objective. (See figure 6-3.) Return routes should differ from routes to the objective.
  - g. **SIGNALS**
  - h. The leader should consider the use of special signals. These include hand-and-arm signals, flares, pyrotechnics, voice, whistles, radios, and visible or nonvisible lasers. All signals are rehearsed to ensure all patrol members understand what they mean.
  - i. **CHALLENGE AND PASSWORD OUTSIDE OF FRIENDLY LINES**
  - j. The challenge and password from the signal operating instructions must not be used when the patrol is outside friendly lines. The unit's tactical SOP should state the procedure for establishing a patrol challenge and password as well as other combat identification features and patrol markings. Two methods for establishing a challenge and password are the odd number system and running password.
  - k. **Odd Number System** The leader specifies an odd number. The challenge can be any number less than the specified number. The password will be the number that must be added to it to equal the specified number, for example, the number is 9, the challenge is 4, and the password is 5.
  - l. **Running Password** Signal operating instructions also may designate a running password. This code word alerts a unit that friendly are approaching in a less than organized manner and possibly under pressure. The number of friendly approaching follows the running password. For example, if the running password is "eagle," and seven friendly are approaching, they would say "eagle seven."
  - m. The leader considers where he, the platoon sergeant or assistant patrol leader, and other essential leaders should be located for each phase of the patrol mission.
732. What must the patrol leader's plan address?
- a. The leader's plan must address actions on chance contact at each phase of the patrol mission:
  - b. The plan must address the handling of seriously WIA and KIA personnel.
  - c. The plan must address actions required to recover isolated Soldiers.
  - d. The plan must address the handling of prisoners captured as a result of chance contact who are not part of the planned mission.
733. What must the patrol leader coordinate with other units on?

- a. The platoon leader must coordinate with the commander of the forward unit and leaders of other units patrolling in the same or adjacent areas. The coordination includes automated network control device information, signal plan, fire plan, running passwords, procedures for departure and reentry of lines, planned dismount points, IRPs, actions at departure and reentry points, and information about the enemy:
  - b. The platoon leader provides the forward unit leader with the unit identification, size of the patrol, departure, return times, and area of operation.
  - c. The forward unit leader provides the platoon leader with the following: Additional information on terrain just outside the friendly unit lines. Known or suspected enemy positions in the near vicinity.
  - d. Likely enemy ambush sites. Latest enemy activity. Detailed information on friendly positions, obstacles, and observation posts. Friendly unit fire plan. Support the unit can provide (direct and indirect fire support, litter teams, guides, communications, and reaction force).
734. What should the leader consider when planning for departure of friendly lines?
- a. In planning for departure of friendly lines, the leader should consider the following sequence of actions:
  - b. Making contact with friendly guides at the contact point.
  - c. Moving to a coordinated initial rally point just inside friendly lines.
  - d. Completing final coordination.
  - e. Moving to and through the passage point.
  - f. Establishing a security-listening halt beyond the friendly unit's final protective fires.
735. What is a patrol base?
- a. A patrol base is a security perimeter which is set up when a squad or platoon conducting a patrol halts for an extended period. A patrol base should not be occupied for more than a 24-hour period (except in emergency). A patrol never uses the same patrol base twice. The following activities at a minimum should be taken into consideration:
  - b. Use.
  - c. Site selection.
  - d. Planning consideration.
  - e. Security measures.
  - f. Occupation.
  - g. Priorities of work
736. When are patrol bases typically used?
- i. Patrol bases typically are used—
  - b. To avoid detection by eliminating movement.
  - c. To hide a unit during a long detailed reconnaissance.
  - d. To perform maintenance on weapons, equipment, eat and rest.
  - e. To plan and issue orders.
  - f. To reorganize after infiltrating an enemy area.

- g. To establish a base from which to execute several consecutive or concurrent operations.
737. How are PB sites selected?
- a. The leader selects the tentative site from a map or by aerial reconnaissance. The site's suitability must be confirmed and secured before the unit moves into it. Plans to establish a patrol base must include selecting an alternate patrol base site. The alternate site is used if the first site is unsuitable or if the patrol must unexpectedly evacuate the first patrol base.
738. What must leaders consider when planning for a patrol base?
- a. Leaders planning for a patrol base must consider the mission, passive and active security measures. A patrol base must be located so it allows the unit to accomplish its mission:
  - b. Observation posts and communication with observation posts.
  - c. Patrol or platoon fire plan.
  - d. Alert plan.
  - e. Withdrawal plan from the patrol base to include withdrawal routes and a rally point, rendezvous point, or alternate patrol base.
  - f. A security system that makes sure specific individuals are awake at all times.
  - g. Enforcement of camouflage, noise, and light discipline.
  - h. The conduct of required activities with minimum movement and noise.
  - i. Priorities of work.
739. What are security measures to take into consideration when planning security measures for a patrol base?
- a. The following security measures should be taken into consideration as a minimum:
  - b. Select terrain the enemy probably would consider of little tactical value.
  - c. Select terrain off main lines of drift.
  - d. Select difficult terrain impeding foot movement, such as an area of dense vegetation, preferably bushes and trees spreading close to the ground.
  - e. Select terrain near a source of water.
  - f. Select terrain defensible for a short period and offers good cover and concealment.
  - g. Avoid known or suspected enemy positions.
  - h. Avoid built up areas.
  - i. Avoid ridges and hilltops, except as needed for maintaining communications.
  - j. Avoid small valleys.
  - k. Avoid roads and trails.
740. What is a patrol base reconnoitered?
- a. A patrol base is reconnoitered and occupied in the same manner as an ORP, with the exception the platoon will typically plan to enter at a 90-degree turn. The leader leaves a two-Soldier observation post at the turn; the patrol covers tracks from the turn to the patrol base.
741. How is a patrol base occupied?

- a. The platoon moves into the patrol base. Squad-sized patrols generally will occupy a cigar shaped perimeter; platoon-sized patrols generally will occupy a triangle shaped perimeter.
  - b. The leader inspects and adjusts the entire perimeter, as necessary.
  - c. After the leader has checked each squad's portion of the perimeter, each squad leader sends a two-Soldier R&S team to the leader at the patrol's command post. The leader issues the three R&S teams a contingency plan, reconnaissance method, and detailed guidance on what to look for (enemy, water, built up areas or human habitat, roads, trails, or possible rally points).
742. What determines where each R&S team departs?
- a. Where each R&S team departs is based on the leader's guidance. The R&S team moves a prescribed distance and direction, and reenters where the leader dictates:
  - b. R&S teams will prepare a sketch of the area to the squad front if possible.
  - c. The patrol remains at 100 percent alert during this recon.
  - d. If the leader feels the patrol was tracked or followed, he may elect to wait in silence at 100 percent alert before sending out R&S teams.
  - e. The R&S teams may use reconnaissance methods such as a box or fan discussed later in this chapter. Regardless of the method chosen; the R&S team must be able to provide the leader with the same information.
  - f. Upon completion of the information collection by the R&S teams, the platoon leaders makes a decision to either stay in the current patrol base and begin priorities of work or move the patrol base to an alternate location.
743. How are priorities of work established in the patrol base?
- a. Once the leader is briefed by the R&S teams and determines the area is suitable for a patrol base, the leader establishes or modifies defensive work priorities in order to establish the defensive posture of the patrol base. Priorities of work are not a laundry list of tasks to be completed, priorities of work must consist of a task, a given time, and a measurable performance standard. For each priority of work, a clear standard must be issued to guide the element in the accomplishment of each task. It also must be designated whether the work will be controlled in a centralized or decentralized manner. Priorities of work are determined in accordance with METT-TC. Priorities of work may include the tasks described below, but are not limited to them. 6-49. Prepare to use all passive and active measures to cover the entire perimeter all of the time, regardless of the percentage of weapons used to cover all the terrain. Employ all elements, weapons, and personnel to meet conditions of the terrain, enemy, or situation.
744. Who designates the signal for withdrawal in a PB?
- a. The leader designates the signal for withdrawal, order of withdrawal, platoon rendezvous point, and alternate patrol base.
745. What role does communications play during a patrol?
- a. Communications must be maintained with higher headquarters, observation posts, and within the unit. Other Soldiers within the patrol may rotate duties with

the platoon's RTO allowing accomplishment of continuous radio monitoring, radio maintenance, act as runners for leader, or conduct other priorities of work.

746. How does the leader use a PB?
- The leader uses the patrol base to plan, issue orders, rehearse, inspect, and prepare for future missions.
747. What needs to be maintained in a PB?
- The leader ensures medium machine guns, weapon systems, communications equipment, and night vision devices (as well as other equipment) are maintained. No more than one-third of any given type of system carried by the patrol should be disassembled for preventative checks and services at any one time. As a general rule weapons should not be disassembled for routine maintenance at night. If one of the patrol's medium machine guns is down for maintenance, then security levels for all remaining systems are raised.
748. What is a watering party? How are they organized?
- The platoon sergeant or assistant patrol leader organizes watering parties as necessary. The watering party carries canteens in an empty rucksack or duffel bag, and must have communications and contingency plans related to their making enemy contact en route or returning from the water point or if the patrol base has to displace during their absence prior to their departure from the patrol base.
749. What actions are performed prior to mess?
- At a minimum, security and weapons maintenance are performed prior to mess. Normally no more than half the platoon eats at one time. Soldiers typically eat one to three meters behind their fighting positions to avoid distracting those Soldiers providing security.
750. What role does sleep play during a combat operation?
- All leaders within the platoon must understand the problems associated with sleep deprivation and the consequences of not following the unit rest and sleep plan. The body needs regular rest to restore physical and mental vigor. When a Soldier is tired, his bodily functions are sluggish, and his ability to react is slower than normal, which makes him more susceptible to sickness, and to making errors that could endanger him or other members of the platoon. For the best health, you should get six to eight hours of uninterrupted sleep each day. As that is seldom possible in combat, use rest periods and off-duty time to rest or sleep. The platoon leader must develop and enforce the unit sleep plan that provides Soldiers with a minimum of 4 hours of uninterrupted sleep in a 24-hour period. If sleep is interrupted, then 5 hours should be given. During continuous operations when uninterrupted sleep is not possible, blocks of sleep which add up to 6 hours in a 24-hour period are adequate for most people. Remember, 4 hours each 24-hour period is far from ideal. Do not go with only 4 hours sleep each 24 hours for more than two weeks before paying back sleep debt. Recovery time should be approximately 8 to 10 hours sleep each 24 hours over a 5- to 7-day period.
751. Who determines the alert posture and stand to time?

- a. The leader states the alert posture and stand to time. He develops the plan to ensure all positions are checked periodically, observation posts are relieved periodically, and at least one leader always is alert. The patrol typically conducts stand to at a time specified by unit SOP such as 30 minutes before and after the begin morning nautical twilight (BMNT) or the end of evening nautical twilight (EENT).
  - b. The leader physically reconnoiters routes to select rally points whenever possible. He selects tentative points if he only can conduct a map reconnaissance. Routes are confirmed by the leader through actual inspection as the platoon moves through them.
  - c. Rally points must—
  - d. Be easy to recognize on the ground.
  - e. Have cover and concealment.
  - f. Be away from natural lines of drift.
  - g. Be defensible for short periods.
752. What are the most common types of rally points?
- a. The most common types of rally points are initial, en route, objective, reentry, near and far-side. Soldiers must know which rally point to move to at each phase of the patrol mission. They should know what actions are required there and how long they are to wait at each rally point before moving to another. The following are descriptions of these five rally points:
  - b. Initial rally point. An IRP is a place inside of friendly lines where a unit may assemble and reorganize if it makes enemy contact during the departure of friendly lines or before reaching the first en route rally point. It is normally selected by the commander of the friendly unit.
  - c. Enroute rally point. The leader designates en route rally points based on the terrain, vegetation, and visibility.
  - d. Objective rally point. ORP is a point out of sight, sound, and small-arms range of the objective area. It normally is located in the direction the platoon plans to move after completing its actions on the objective. The ORP is tentative until the objective is pinpointed. (See figure 6-4.) Actions at or from the ORP include—  
Issuing a final fragmentary order (FRAGORD). Disseminating information from reconnaissance if contact was not made. Making final preparations before continuing operations. Accounting for Soldiers and equipment after actions at the objective are complete. Reestablishing the chain of command after actions at the objective is complete. Reentry rally point. The RRP is located out of sight, sound, and small-arms weapons range of the friendly unit through which the platoon will return. This also means the RRP should be outside the FPFs of the friendly unit. The platoon occupies the RRP as a security perimeter.
  - e. Near-and far-side rally points. These rally points are on the near and far side of danger areas. If the platoon makes contact while crossing the danger area and control is lost, Soldiers on either side move to the rally point nearest them. They establish security, reestablish the chain of command, determine their personnel and equipment status, continue the patrol mission, and linkup at the ORP.

753. What determines if a patrol is mounted or dismounted?
- An analysis of the METT-TC variables determines whether the patrol is mounted or dismounted. The planning and coordination required for both types of patrols is the same. Some factors to consider when determining which mode to use include—
  - Mission, especially where distance and speed are factors.
  - Onboard visibility, navigation, and communication.
  - Firepower and protection.
  - Stealth and surprise.
  - Terrain.
754. What types of patrols do mechanized and Stryker infantry units conduct?
- Mechanized and Stryker Infantry units frequently conduct mounted patrols. The same considerations that apply to dismounted patrol apply to vehicle mounted patrols. The platoon leader should additionally consider the following:
  - Organize and orient vehicle gunners and vehicle commanders to maintain all-round security and, for urban areas, high-low security. Carefully consider leader locations in each vehicle and within the convoy.
  - Rehearse mounted battle drills, reaction to contact, roll over drills, and mounting and dismounting in contact. If water hazards are present include evacuation of the vehicle from the top hatches. Include drivers in all rehearsals.
  - Plan alternate routes to avoid civilian traffic and roadblocks. Remember that four is generally the minimum number of vehicles to conduct an operation. If one vehicle is disabled or destroyed, it can be recovered while the others provide security. Unit TACSOPs determine the number of vehicles required.
  - Plan for actions required if a vehicle breaks down and has to be repaired or recovered. Review self-recovery procedures. Plan actions in case a vehicle gets stuck and cannot be recovered. Plan actions for catch-ups and breaks in contact.
  - Establish alternative communications plans.
  - Secure external gear to prevent theft.
  - Plan for heavy civilian vehicle and pedestrian traffic.
  - Conduct a map reconnaissance and identify likely chokepoints, ambush sites (intersections), and overpasses.
  - Plan primary and alternate routes to avoid potential hazards.
  - Drive offensively, unpredictably, but within ROE restrictions.
  - Avoid stopping; it can create a potential kill zone.
  - Learn the characteristics of the vehicle, to include how high a vehicle can clear curbs and other obstacles, its turning radius, its high-speed maneuverability, and its estimated width (especially with slat armor).
755. How does a mounted patrol conduct actions on the objective?
- The mounted patrol normally moves to a dismount point (often the designated objective rally point) and conducts the same actions on the objective as a dismounted patrol. If possible, the vehicles establish a support-by-fire position to cover the objective, establish blocking positions, provide security, or otherwise support the actions of the dismounted element. The dismounted element

conducts its required part of the mission and returns to the vehicles, remounts, and continues mission. Types of combat patrols that are especially suited for mounted movement include antiarmor ambushes, reconnaissance patrols covering long distances and security patrols.

756. Why do units send patrols?

- a. Units send out patrols under many and varied conditions on the battlefield. The specific actions taken in preparing for a patrol, while conducting the mission, and after returning to the main body will vary depending on the tactical situation. The principles, however, will remain the same. During high-intensity combat, some of the actions described below may be abbreviated. Those same actions may be executed in greater detail and specificity during stability or during support to civil authority. In general, patrol activities are more closely documented during operations in other than high-intensity combat. Patrol operations require considerable preparation before a patrol departs. The commander or platoon leader should brief the patrol leader and give him clear orders before sending him away from the main body. Patrol members should depart on patrol confident of the patrol's capabilities. This can be understood through detailed knowledge of the mission's task and purpose, the threats which may be encountered during the patrol, and good situational awareness.

757. What should Patrol orders, pre-patrol briefings, and rehearsals cover?

- a. Patrol orders, pre-patrol briefings, and rehearsals should cover— Environment, local situation and possible threats. The patrol leader should coordinate an intelligence briefing covering the operational environment, local civil situation, terrain and weather which might affect the patrol's mission, general and specific threats to the patrol, suspect persons, and vehicles and locations known to be in the patrol's area. Mine and IED threat. The patrol leader should make a mine and IED risk assessment based on the latest information available. This will determine many of the actions of the patrol. Patrol members must be informed of the latest mine and IED threats and restrictions to the unit's tactical SOPs. Operations update. The patrol leader should coordinate for an up-to-date briefing on the location and intentions of other friendly patrols and units in the patrol's area. This briefing should include the existing fire and maneuver control measures in effect, no-go or restricted areas, special effects of the patrol's area, and all other operational issues affecting the patrol and its mission. Mission and tasks. Every patrol leader should be given a specific task and purpose to accomplish with his patrol. Accordingly, each patrol member knows the mission and is aware of his responsibilities. Locations and route. The patrol leader must brief his patrol on all pertinent locations and routes. Locations and routes may include drop-off points, pick-up points, planned routes; rally points, exit and re-entry points, and alternates for each should be covered in detail. Posture. This is a vital consideration during a civil reconnaissance patrol. (Refer to FM 3-57 for more information.) The patrol leader should not depart until he is sure he completely understands what posture or attitude the leader wishes the patrol to present to the populace it encounters. The posture may be soft or hard

depending on the situation and environment. The patrol posture may change several times during a patrol. Biometric enrollments/BEWL. An additional consideration during civil reconnaissance may be the number of biometric enrollments accomplished as well as how many people were identified with organic biometric devices as Tier/Level 1-6 Targets on the BEWL. Personnel recovery. Operations that focuses on recovering isolated or missing personnel before becoming detained or captured and extracting those detained or captured personnel through coordinated and well-planned operations. Actions on contact and actions at the scene of an incident. These are likely to be part of the unit's tactical SOPs but should be covered especially if there are local variations or new patrol members. Rules of engagement, rules of interaction, and rules for escalation of force. Each patrol member must know and understand these rules. Communications plan/Lost communications plan. Every patrol member should know the means in which the patrol plans to communicate, to whom, how, and when it should report. The patrol leader must ensure he has considered what actions the patrol will take in the event it loses communications. The unit may have established these actions in its tactical SOP, but all patrol members should be briefed on the communication plan and be given the appropriate frequencies, contact numbers, and passwords in effect. Electronic warfare countermeasures plan. This is especially important if the IED threat level is high. The patrol leader should clearly explain to all patrol members which electronic warfare devices are being employed and their significant characteristics. These issues may be covered by the unit's tactical SOP, but all patrol members should be briefed on the electronic warfare plan in effect during the patrol. Standard and special uniforms and equipment. Equipment should be distributed evenly among the patrol members. The location of essential or unique equipment should be known by all members of the patrol. SOPs should be developed to stipulate what uniform is to be worn for various types of patrols. The dress state will be linked to threats and posture of the patrol, so patrol members should be briefed in sufficient time to enable proper preparations. All patrols must have a day and night capability regardless of the expected duration of the patrol. + Medical. Every Soldier should carry their own individual improved first aid kit per unit tactical SOP. The leader should ensure that every patrol has a medic and one CLS qualified Soldier with a CLS bag. All patrol members must know who is responsible for carrying the pack and know how to use its contents. Attachments. The patrol leader must ensure all personnel attached to the patrol are introduced to the other patrol members and briefed thoroughly on the tactical SOP; all patrol special orders; and existing chain of command. The following personnel may be attached to a unit going out on patrol: Interpreters Host-nation police, military police or local security forces. Explosive ordnance disposal teams. Female Soldiers specifically designated and trained to search local women. Military working dog teams. Foreign security forces. Host-nation forces. Provincial reconstruction teams.

758. What equipment is essential for a patrol?

- a. Radios and electronic warfare equipment. Radios and electronic warfare equipment should be checked prior to every patrol ensuring it is serviceable and operates correctly. Batteries must be taken for expected duration of the patrol plus some extra for backup. Patrol members must be trained in the operation of all electronic warfare and radio equipment. It is the patrol leader's responsibility to ensure radios and electronic warfare equipment is switched on and working and communication checks are conducted prior to leaving the base location.
  - b. Weapons. All weapons must be prepared for firing prior to departure from the larger unit. Slings should be used to ensure weapons do not become separated from Soldiers who became incapacitated. This also ensures a weapon cannot be snatched away from a distracted Soldier while he is speaking with locals and used against him. Ammunition. Sufficient ammunition, signal pyrotechnics, obscurants, and nonlethal munitions must be carried to enable the patrol to conduct its mission. The amount a patrol carries may be established by the unit's tactical SOP or by the patrol leader based upon an evaluation of the situation the patrol faces. Load-carrying equipment. Patrol members should carry sufficient team and personal equipment to enable them to accomplish other missions such as reassignment to a cordon position before returning to the larger unit for resupply. The unit's tactical SOP should establish the standard amount of equipment and supplies to be carried. The leader carefully considers the burden being placed on Soldiers going on a foot patrol, especially in extreme weather conditions or rugged terrain. Documentation. Team leaders are responsible to the patrol leader for ensuring appropriate documentation is carried by individuals for conducting the mission. Under normal circumstances, Soldiers should carry just their identification card and tags. The unit tactical SOP may prohibit or require the carrying of other appropriate theater specific documentation such as cards with rules on EOF or ROE.
759. What should be conducted before a patrol departs?
- a. A number of equipment checks should be conducted prior to the patrol departing. These checks can include the following: Individual equipment check. It is the responsibility of every patrol member to check their individual equipment. Soldiers should ensure all loose items of carried equipment are secured. Team leader's equipment check. Leaders must ensure individual team members limit what they carry to which is required for the patrol. Team equipment must be checked for serviceability. Patrol leader's equipment check. Patrol leaders should check individual and team equipment from each team prior to deploying, paying particular attention to the serviceability of mission specific equipment.
760. What are some patrol preparation activities?
- a. Patrol preparation activities prior to departure and after departure include: Rehearsals. Communication checks. Patrol manifest. Departure report. Weapons status. Exiting and entering a fixed base. Security checks while on patrol. Five and twenty five meter checks.
761. What should be done with communications systems before departing on a patrol?

- a. Communications checks should be conducted with the unit headquarters or command post before every patrol. Patrols should not leave the vicinity of the main body until all communication systems are operating correctly.
762. What needs to be sent to the commander before departing on a patrol? Why is this item important and what information is present on this item?
- a. When the situation allows, the patrol leader should submit a written patrol manifest to the commander or to command post personnel prior to departing the main body. Regardless of the situation, whenever the unit sends out a patrol there should be a specific list of the patrol members made before it departs. The unit tactical SOP may establish a specific format for this manifest, but generally it should contain the following information: Patrol number or call sign designation. Unit designation of unit sending the patrol out. Patrol task and purpose (mission). Names and rank of patrol leader and all subordinate leaders. Estimated date-time-group out. Estimated date-time-group in. Brief description of the patrol's intended route. Complete names, rank, and unit of all members of the patrol, including attachments. Number, nomenclature, and serial number of all weapons with the patrol. Number, nomenclature, and serial number of all electronic warfare devices, radios, and other special or sensitive equipment with the patrol. Vehicle type and registration number, if appropriate.
  - b. The purpose of the manifest is to allow the higher headquarters to keep track of all the patrols which are out and those having returned. If the patrol engages the enemy or fails to return on time without reporting, the headquarters has information on the size, capability and intentions of the patrol that it may need. If the patrol suffers casualties or has a vehicle disabled, this manifest can be used to check that all personnel, weapons and sensitive items were recovered. The patrol leader should render a departure report just as the patrol departs the main body location or the base. Depending on the procedure established by the unit's tactical SOP, this might include a detailed listing of the patrol's composition. It also may simply state the patrol's call sign or patrol number and report its departure.
763. What happens upon leaving the main body position?
- a. Immediately upon leaving an established base or the main body position, the patrol leader, vehicle commanders, and team leaders should ensure all the patrol weapons are loaded and prepared for in accordance with ROE. Electronic warfare equipment should be checked to ensure it is turned on if appropriate and all radio frequency settings should be confirmed. 6-78. When the patrol returns to the base, each Soldier should clear his weapon immediately after entering the protected area. The unit's tactical SOP normally will establish precise procedures for this clearing. Patrol leaders should ensure all individual and crew-served weapons are unloaded.
764. Why is exiting and entering a fixed operating base a risky activity?
- a. Exiting and entering a fixed operating base is a high risk activity due to the way troops are channeled through narrow entry or exit points. Insurgents are known to monitor patrols leaving and entering base locations to identify and exploit

patterns and areas of weakness. Patrols leaving and entering a base reduce the risks of attack by varying the points used to exit and enter the base, and routes used to transit the immediate area around the base. If this is not possible, extreme caution should be used in the vicinity of the exit and entry points. Patrol leaders ensure their patrols do not become complacent. Units should ensure close coordination between patrol leaders and guards at the entry point while the patrol is transiting the gate.

765. How do patrol members assist the patrol leader?
- Patrol members assist their patrol leader by consistently applying basic patrolling techniques. This gives the team leader more time to concentrate on assisting the patrol leader in the conduct of the patrol. Team members should concentrate on maintaining spacing, formation, alertness, conducting 5- and 25-meter checks and taking up fire positions without supervision.
766. What should happen every time a patrol stops?
- Every time a patrol stops, it should use a fundamental security technique known as the 5- and 25-meter check. The technique involves every patrol member requiring him to make detailed, focused examinations of the area immediately around him, and looking for anything out of the ordinary which might be dangerous or significant. Five-meter checks should be conducted every time a patrol member stops. Twenty-five-meter checks should be conducted when a patrol halts for more than a few minutes. Soldiers should conduct a visual check using their unaided vision, and by using the optics on their weapons and binoculars. They should check for anything suspicious, and anything out of the ordinary. This might be as minor as bricks missing from walls, new string or wire run across a path, mounds of fresh soil, or other suspicious signs. Check the area at ground level through to above head height.
767. What actions are taken when the patrol makes a planned halt?
- When the patrol makes a planned halt, the patrol leader identifies an area for occupation and stops 50 meters short of it. While the remainder of the patrol provides security, the patrol leader carries out a visual check using binoculars. After moving the patrol forward 20 meters from the position, the patrol leader conducts a visual check using optics on the weapon or with unaided vision. Before actually occupying the position, each Soldier conducts a thorough visual and physical check for a radius of five meters. Each Soldier must be systematic, take time and show curiosity. Use touch and, at night, white light if appropriate. Obstacles must be physically checked for command wires. Fences, walls, wires, posts and ground immediately underneath must be carefully felt by hand, without gloves.
768. What are the characteristics of a combat patrol?
- A combat patrol provides security and harasses, destroys, or captures enemy troops, equipment, or installations. When the commander gives a unit the mission to send out a combat patrol, he intends the patrol to make contact with the enemy and engage in close combat. A combat patrol always tries to remain undetected while moving, but when it discloses its location to the enemy it is with

a sudden and violent attack. For this reason, the patrol normally carries a significant amount of weapons and ammunition. It may carry specialized munitions. A combat patrol collects and reports information gathered during the mission, whether related to the combat task or not. The three types of combat patrols are raid, ambush, and security patrol.

769. What are raids?

- a. Raids are surprise attacks against a position or installation for a specific purpose other than seizing and holding the terrain. It is conducted to destroy a position or installation, to destroy or capture enemy soldiers or equipment, or to free prisoners. A raid patrol retains terrain just long enough to accomplish the intent of the raid. A raid always ends with a planned withdrawal off the objective and a return to the main body.

770. When is a security patrol sent from a unit location?

- a. A security patrol is sent out from a unit location when the unit is stationary or during a halt to search the local area, detect enemy forces near the main body, and to engage and destroy the enemy within the capability of the patrol. This form of combat patrol normally is sent out by units operating in close terrain with limited fields of observation and fire. Although this form of combat patrol seeks to make direct enemy contact and to destroy enemy forces within its capability, it should try to avoid decisive engagement. A security patrol detects and disrupts enemy forces conducting reconnaissance of the main body or massing to conduct an attack. Security patrols normally are away from the main body of the unit for limited periods, returning frequently to coordinate and rest. They do not operate beyond the range of communications and supporting fires from the main body, especially mortar fires.

771. What are the three essential elements for a combat patrol?

- a. There are three essential elements for a combat patrol: security; support; and assault. Assault elements accomplish the mission during actions on the objective. Support elements suppress or destroy enemy on the objective in support of the assault element. Security elements assist in isolating the objective by preventing enemy from entering and leaving the objective area as well as by ensuring the patrol's withdrawal route remains open. The size of each element is based on the situation and leader's analysis of METT-TC.

772. What element is the combat patrol's main effort?

- a. The assault element is the combat patrol's main effort. Its task is to conduct actions on the objective. In most cases, the assault element will accomplish the overall purpose. This element must be capable (through inherent capabilities or positioning relative to the enemy) of destroying or seizing the target of the combat patrol. Tasks typically associated with the assault element include:
  - b. Conduct of assault across the objective to destroy enemy equipment, capture or kill enemy, and clearing of key terrain and enemy positions.
  - c. Maneuver close enough to the objective to conduct an immediate assault if detected.

- d. Being prepared to support itself if the support element cannot suppress the enemy.
  - e. Providing support to a breach element in reduction of obstacles, if required.
  - f. Planning detailed fire control and distribution.
  - g. Conducting controlled withdrawal from the objective.
773. Why may a breach force be established? What are some other examples of special purpose teams?
- a. Analysis of METT-TC, particularly for a raid, may result in the requirement to organize a separate breach force. At times this may include reducing an obstacle. Additional tasks/special purpose teams assigned may include:
  - b. Search teams. To find and collect documents, equipment and information which can be used to produce intelligence.
  - c. Detainee teams. To capture, secure, and document detainees.
  - d. Demolition teams. To plan and execute the destruction of obstacles and when necessary enemy equipment.
  - e. Breach team. To create lanes in protective obstacles to facilitate the completion of the patrol's primary task.
  - f. Aid and litter teams. To identify, collect, render immediate aid and coordinate casualty evacuation.
774. What is the purpose of the support element? How is the support element organized?
- a. The support element suppresses the enemy on the objective using direct and indirect fires. The support element is a shaping effort setting conditions for mission's main effort. This element must be capable of supporting the assault element. The support force can be divided up into two or more elements if required.
  - b. The support element is organized to address a threat of enemy interference with the assault elements. The support force suppresses, fixes, or destroys elements on the objective. The support force's primary responsibility is to suppress enemy to prevent reposition against main effort. The support force—
  - c. Initiates fires and gains fire superiority with crew-served weapons and indirect fires.
  - d. Controls rates and distribution of fires.
  - e. Shifts/ceases fire on signal.
  - f. Supports the withdrawal of the assault element.
775. What are the three roles of the security element?
- a. The security element is a shaping force having three roles. The first is to isolate the objective from enemy personnel and vehicles attempting to enter the objective area. These actions range from simply providing early warning, to blocking enemy movement. This element may require several different forces located in various positions. The patrol leader is careful to consider enemy reserves or response forces that will be alerted once the engagement begins. The second role is to prevent enemy from escaping the objective area. The third role is to secure the patrol's withdrawal route.

- b. There is a subtle yet important distinction to the security element. All elements of the patrol are responsible for their own local security. What distinguishes the security element is they are protecting the entire patrol. Their positions must be such they can, in accordance with their engagement criteria, provide early warning of approaching enemy.
  - c. The security element is organized to address the primary threat to the patrol, being discovered and defeated by security forces prior to execution of actions on the objective. To facilitate the success of the assault element, the security element must fix or block (or at a minimum screen) all enemy security or response forces located on parts of the battlefield away from the raid.
776. What are the characteristics of a raid?
- a. Raids are characterized by the following:
  - b. Destruction of essential systems or facilities (command and control nodes, logistical areas, other high value areas).
  - c. Provide or deny critical information.
  - d. Securing of hostages or prisoners.
  - e. Confusing the enemy or disrupting his plans.
  - f. Detailed information collection (significant collection assets committed).
  - g. Mission command from the higher headquarters to synchronize the operation.
  - h. Creating a window of opportunity.
777. What are the five phases of a raid?
- a. Raids normally are conducted in five phases—(See figure 6-5, page 6-26.) 1) Approach the objective. 2) Isolate the objective area. 3) Set conditions for the assault element. 4) Assault the objective. 5) Tactical movement away from the objective area.
778. What is an ambush? What are the different types of an ambush?
- a. An ambush is a surprise attack from a concealed position on a moving or temporarily halted target. It can include an assault to close with and destroy the target or an assault by fire. An ambush need not seize or hold ground. The purpose of an ambush is to destroy or to harass enemy forces. The ambush combines the advantages of the defense with the advantages of the offense, allowing a smaller force with limited means the ability to destroy a much larger force. Ambushes are enemy-oriented. Terrain is held only long enough to conduct the ambush, and then the force withdraws. Ambushes range from simple to complex and synchronized; short duration of minutes to long duration of hours; and within hand grenade range, to maximum standoff. Ambushes employ direct fire systems as well as other destructive means, such as command-detonated mines and explosives, and indirect fires on the enemy force. The attack may include an assault to close with and destroy the enemy or may just be a harassing assault by fire. Ambushes may be conducted as independent operations or as part of a larger operation.
779. What is the purpose of an ambush?
- a. The purpose of an ambush is either harassment or destruction. A harassing ambush is one in which attack is by fire only (meaning there is no assault

element). A destruction ambush includes assault to close with and destroy the enemy.

780. What are the three forms of ambush?
- The three forms of ambushes are point, area, and antiarmor. In a point ambush, Soldiers deploy to attack a single kill zone. In an area ambush, Soldiers deploy as two or more related point ambushes. These ambushes at separate sites are related by their purpose. (See figure 6-6.) A unit smaller than a platoon normally does not conduct an area ambush. Antiarmor ambushes focus on moving or temporarily halted enemy armored vehicles
781. What determines if an ambush is hasty and deliberate?
- Based on the amount of time available to set an ambush, ambushes are hasty and deliberate. A hasty ambush is conducted based on an unanticipated opportunity. It is used when a patrol sees the enemy before the enemy sees it, and the patrol has time to act. The leader gives the prearranged signal to start the action and all Soldiers move to concealed firing positions, prepared to engage the enemy. Depending on the mission, the patrol may allow the enemy to pass if the enemy does not detect the patrol.
782. Why is a deliberate ambush conducted?
- A deliberate ambush is conducted against a specific target at a location chosen based on intelligence. With a deliberate ambush, leaders plan and prepare based on detailed information allowing them to anticipate enemy actions and enemy locations. Detailed information includes: type and size of target, organization or formation, routes and direction of movement, time the force will reach or pass certain points on its route, and weapons and equipment carried.
783. What occurs during terrain analysis?
- During terrain analysis, leaders identify at least four different locations: the ambush site, the kill zone, security positions, and rally points. As far as possible, so-called "ideal" ambush sites should be avoided because alert enemies avoid them if possible and increase their vigilance and security when they must be entered. Therefore, surprise is difficult to achieve. Instead, unlikely sites should be chosen when possible. Following are characteristics of these four ideal positions.
784. What are the components of an ambush site?
- The ambush site is the terrain on which a point ambush is established. The ambush site consists of a support-by-fire position for the support element and an assault position for the assault element. An ideal ambush site—
  - Has a good field of fire into the kill zone.
  - Has good cover and concealment.
  - Has a protective obstacle.
  - Has a covered and concealed withdrawal route.
  - Makes it difficult for the enemy to conduct a flank attack.
785. What are the characteristics of the kill zone?
- The kill zone is the part of an ambush site where fire is concentrated to isolate or destroy the enemy. An ideal kill zone has the following characteristics:

- b. Enemy forces are likely to enter it.
  - c. It has natural tactical obstacles.
  - d. Large enough to observe and engage the anticipated enemy force.
786. What is a near ambush?
- a. A near ambush is a point ambush with the assault element within reasonable assaulting distance of the kill zone (less than 50 meters). Close terrain, such as an urban area or heavy woods, may require this positioning. It also may be appropriate in open terrain in a "rise from the ground" ambush. A far ambush is a point ambush with the assault element beyond reasonable assaulting distance of the kill zone (beyond 50 meters). This location may be appropriate in open terrain offering good fields of fire or when attack is by fire for a harassing ambush.
787. What are the characteristics of an ideal security position?
- a. An ideal security position—
  - b. Does not mask fires of the main body.
  - c. Provides timely information to the main body. (Gives the leader enough time to act on information provided.)
  - d. Can provide a support-by-fire position.
788. How does the leader select rally points?
- a. The leader physically reconnoiters routes to select rally points whenever possible. He selects tentative points if he can only conduct a map reconnaissance. He confirms them by actual inspection as the platoon moves through them. Rally points must—
  - b. Be easy to find.
  - c. Have cover and concealment.
  - d. Be away from natural lines of drift.
  - e. Be defensible for short periods.
789. What are some of the many shapes of ambush formations?
- a. Many ambush formations exist. This section only discusses the linear, L-shaped, and V-shaped (see figures 6-7 through 6-9, pages 6-30 through 6-32.) All of these formations require leaders to exercise strict direct fire control. Leaders need to understand strengths and weaknesses of their units and plan accordingly. The formation selected is based on the following: terrain, visibility, Soldiers available, weapons and equipment, ease of control, and target to be attacked.
790. What are the characteristics of an ambush using a linear formation?
- a. In an ambush using a linear formation, the assault and support elements parallel the target's route. This positions the assault and support elements on the long axis of the kill zone and subjects the target to flanking fire. (See figure 6-7.) Only a target that can be covered with a full volume of fire can be engaged in the kill zone. A dispersed target might be too large for the kill zone. This is the disadvantage of linear formations.
  - b. The linear formation is good in close terrain restricting the target's maneuver, and in open terrain where one flank is blocked by natural obstacles or can be blocked by other means such as Claymores. Claymores or explosives can be placed

between the assault and support elements and kill zone to protect the unit from counter-ambush actions.

- c. When the ambushing unit deploys this way, it leaves access lanes through the obstacles so it can assault the target. An advantage of the linear formation is the relative ease by which it can be controlled under all visibility conditions.
791. What are the characteristics of a L-shaped ambush?
- a. An ambush in the L-shaped formation (see figure 6-8) is a variation of the linear formation. The long leg of the L (assault element) is parallel to the kill zone. This leg provides flanking fire. The short leg (support element) is at the end of and at a right angle to the kill zone. This leg provides enfilade fire working with fire from the other leg. The L-shaped formation can be used at a sharp bend in a trail, road, or stream.
792. What are the characteristics of a V-shaped ambush?
- a. The V-shaped ambush assault elements (see figure 6-9, page 6-32) are placed along both sides of the enemy route so they form a V. Take extreme care to ensure neither group fires into the other. This formation subjects the enemy to both enfilading and interlocking fire.
  - b. When performed in dense terrain, the legs of the V close in as the lead elements of the enemy force approach the point of the V. The legs then open fire from close range. Here, even more than in open terrain, all movement and fire is carefully coordinated and controlled to avoid fratricide.
  - c. A wider separation of the elements makes this formation difficult to control, and fewer sites favor its use. Its main advantage, it is difficult for the enemy to detect the ambush until well into the kill zone.
793. What are some of the final preparations of an ambush?
- a. Final preparations begin with the unit occupying an ORP and end with the main body prepared to depart for the ambush site. The unit halts at the ORP and establishes security. When ready, the leader conducts his reconnaissance to confirm the plan, positions the security element, and returns to the ORP. The security element leaves the ORP first. Teams of the security element move to positions from which they can secure the ORP and flanks of the ambush site. (See figure 6-10.)
794. What are the common control measures for conducting an ambush?
- a. Occupying the site and conducting the ambush begins with main body movement out of the ORP, and ends when the leader initiates a withdrawal. Common control measures include:
    - b. Kill zone.
    - c. Limit of advance.
    - d. Assault by fire/ support-by-fire position.
    - e. Assault position.
    - f. Target registration point.
795. What is a general rule for the occupation of an ambush site?
- a. As a rule, the ambush force occupies the ambush site at the latest possible time permitted by the tactical situation and amount of site preparation required. This

reduces the risk of discovery and time Soldiers must remain still and quiet in position.

796. When are security elements positioned before an ambush?
- Security elements are positioned first to prevent surprise while the ambush is being established. When the security teams are in position, the support and assault elements leave the ORP and occupy their positions. If there is a suitable position, the support element can overwatch the assault element's move to the ambush site. If not, both elements leave the ORP at the same time. (See figure 6-11.)
  - The main body moves into the ambush site from the rear. Ideally, the leader emplaces the most casualty-producing weapons first, ensuring they have line of sight (LOS) along the entire kill zone. Once in place, the leader locates his subordinate units to complement and reinforce the vital positions. The leader then selects his location where he can best initiate and control the action. Once on the objective, movement is kept to a minimum in order to enhance security measures.
797. What are considerations for individual positions when establishing an ambush?
- Each Soldier must be hidden from the target and have LOS into the kill zone. At the ambush site, positions are prepared with minimal change in the natural appearance of the site. Soldiers conceal debris resulting from preparation of positions.
798. What weapon systems are great for engaging targets in dead space in an ambush?
- Claymores, explosives, and grenade launchers may be used to cover dead space left by automatic weapons. All weapons are assigned sectors of fire to provide mutual support. The unit leader sets a time by which positions must be prepared.
799. What are considerations for establishing explosives in a kill zone?
- Kill zone is not entered if entry can be avoided. When emplacing tactical obstacles, care is taken to remove tracks or signs which might alert the enemy and compromise the ambush. If claymores or explosives are placed on the far side, or if the appearance of the site might cause the enemy to check it, a wide detour around the kill zone should be made. Here, too, care is taken to remove all traces which might reveal the ambush. An alternate route from the ambush site also is planned.
800. What actions are taken while the unit waits for enemy targets?
- Once all friendly elements are in position, the unit waits for enemy targets. When the target approaches, the security team spots it and alerts the ambush leader. The security team reports the target's direction of movement, size, and special weapons or equipment. Upon receipt of the report, the leader alerts the other elements.
  - When most of the enemy force is in the kill zone, the leader initiates the ambush with the most casualty-producing weapon, medium machine gun fire, or the detonation of mines or explosives. The detonation of explosives can cause a pause in the initiation of fires due to the obscuration created by the explosion.

Once conditions are set, cease or shift fires. The assault element may conduct an assault through the kill zone to the LOA. If the assault element must assault the kill zone, the leader signals to cease or shift fire. This also signals the start of the assault. Besides destruction of the enemy force, other kill zone tasks can include searching for items of intelligence value, capturing prisoners, and completing the destruction of enemy equipment. When the assault element has finished its mission in the kill zone, the leader gives the signal to withdraw to the ORP.

- c. Fire discipline is critical during an ambush. Soldiers do not fire until the signal is given. Then it must be delivered at once in the heaviest, most accurate volume possible. Well-trained gunners and well-aimed fire help achieve surprise and destruction of the target. When the target is to be assaulted, the ceasing or shifting of fire also must be precise. If it is not, the assault is delayed, and the target has a chance to react. Sector stakes should be used if possible.
801. When does a withdrawal begin?
- a. The withdrawal begins once the assault element completes its actions on the objective and ends with consolidation/reorganization at a designated rally point. On signal, the unit withdraws to the ORP, reorganizes, and continues its mission. At a set terrain feature, the unit halts and disseminates information. If the ambush fails and enemy pursues, the unit withdraws by bounds. Units should use obscurants to help conceal the withdrawal. Obstacles already set along the withdrawal routes can help stop the pursuit.
802. What occurs in an area ambush?
- a. In an area ambush, Soldiers deploy in two or more related point ambushes. The platoon may conduct an area ambush as part of a company offensive or defensive plan, or it may conduct a point ambush as part of a company area ambush.
  - b. The platoon is the smallest level to conduct an area ambush. Platoons conduct area ambushes (see figure 6-12) where enemy movement is largely restricted to trails or streams.
  - c. The platoon leader (or company commander) selects one principal ambush site around which he organizes outlying ambushes. These secondary sites are located along the enemy's most likely avenue of approach and escape routes from the principal ambush site. Squads normally are responsible for each ambush site.
  - d. The platoon leader considers METT-TC to determine the best employment of the weapons squad. He normally locates the medium machine guns with the support element in the principal ambush site.
  - e. Squads or sections responsible for outlying ambushes do not initiate their ambushes until the principal one has been initiated. They then engage to prevent enemy forces from escaping the principal ambush or reinforcing the ambushed force.
803. Why do platoons and squads conduct antiarmor ambushes?

- a. Platoons and squads conduct antiarmor ambushes (see figure 6-13) to destroy armored vehicles. The antiarmor ambush may be part of an area ambush. The antiarmor ambush consists of the assault element (armor-killer element) and support-security element.
804. What is an armor-killer element built around?
- a. The armor-killer element is built around the CCMSs. (See appendix G of this publication for information about employment of the Javelin.) The leader should consider additional SLMs available to supplement the CCMS fires. The leader considers the mission variables of METT-TC to position all antiarmor weapons to take advantage of their best engagement aspect (rear, flank, or top). The remainder of the platoon must function as support-security elements in the same manner as the other forms of ambushes to cover dismounted enemy avenues of approach into the ambush site.
  - b. In a platoon antiarmor ambush, the company commander selects the general site of the ambush with the platoon leader finding a specific site restricting the movement of enemy armored vehicles out of the designated kill zone. The platoon leader should emplace his weapons so an obstacle is between the platoon and the kill zone. In a squad antiarmor ambush, the platoon leader selects the general site of the ambush and the squad leader then finds a site restricting the movement of enemy armored vehicles out of the kill zone.
  - c. The leader should consider the method for initiating the antiarmor ambush. The preferred method should be a mass casualty-producing signal initiated by a reliable weapon system or explosive, such as a main gun round from a tank or infantry carrier, the detonation of mines or explosives, or other direct fire crew-served weapons that fire from a closed bolt. The Javelin can be used to initiate the ambush, but even with its limited signature, it may be less desirable than an antitank mine. The armor-killer team destroys the first and last vehicle in the enemy formation, if possible. All other weapons begin firing once the ambush has been initiated.
805. What must the leader determine during an antiarmor ambush? What are some choices the leader has when ambushing dismounted infantry with armored vehicles?
- a. The leader must determine how the presence of dismounted enemy soldiers with armored vehicles will affect the success of the ambush. The leader's choices include:
  - b. Initiate the ambush as planned.
  - c. Withdraw without initiating the ambush.
  - d. Initiate the ambush with medium machine guns without firing antiarmor weapons.
  - e. Because of the speed enemy armored forces can reinforce the ambushed enemy with, the leader should plan to keep the engagement short and have a quick withdrawal planned. The platoon, based on METT-TC, may not clear the kill zone as in other forms of ambushes.
806. What is the purpose of a point ambush? What occurs during a point ambush?
- a. In a point ambush, Soldiers deploy to attack an enemy in a single kill zone. The platoon leader is the leader of the assault element. The platoon sergeant or

assistant patrol leader probably will locate with the platoon leader in the assault element.

- b. The security or surveillance teams should be positioned first. The support element should then be emplaced before the assault element moves forward. The support element must overwatch the movement of the assault element into position.
- c. The platoon leader must check each Soldier once he emplaces. The platoon leader signals the surveillance team to rejoin the assault element if it is positioned away from the assault location. Actions of the assault element, support element, and security element are shown in table 6-1.
- d. The platoon leader instructs the security element (or teams) to notify him of the enemy's approach into the kill zone using the SALUTE reporting format. The security element also must keep the platoon leader informed if additional enemy forces are following the lead enemy force. This will allow the platoon leader to know if the enemy force meets the engagement criteria directed by the company commander. The platoon leader must be prepared to give free passage to enemy forces too large or do not meet the engagement criteria. He must report to the company commander or ColST enemy forces passing through the ambush unengaged.
- e. The platoon leader initiates the ambush with the greatest casualty-producing weapon, typically a command-detonated Claymore. He also must plan a back-up method, typically a medium machine gun, to initiate the ambush should the primary means fail. All Soldiers in the ambush must know the primary and back-up methods. The platoon should rehearse with both methods to avoid confusion and loss of surprise during execution of the ambush.
- f. The platoon leader must include a plan for engaging the enemy during limited visibility. Based on the company commander's guidance, the platoon leader should consider the use and mix of tracers and employment of illumination, night vision devices, and thermal weapon sights. For example, if Javelins are not used during the ambush, the platoon leader still may employ the CLU with its thermal sights in the security or support element to observe enemy forces.
- g. The platoon leader also may include the employment of indirect fire support in his plan. Based upon the company commander's guidance, the platoon leader may employ indirect fires to cover flanks of the kill zone. This isolates an enemy force or assists the platoon's disengagement if the ambush is compromised or the platoon departs the ambush site under pressure.
- h. The platoon leader has a good plan (day and night) that signals the advance of the assault element into the kill zone to begin its search and collection activities. He should take into consideration the existing environmental factors. For example, obscurants may not be visible to the support element because of limited visibility or the lay of the terrain. Soldiers must know and practice relaying the signal during rehearsals to avoid the potential of fratricide.

- i. The assault element must be prepared to move across the kill zone using individual movement techniques if there is return fire once they begin to search. Otherwise, the assault element moves across by bounding fire teams.
  - j. The assault element collects and secures all EPWs and moves them out of the kill zone to an established location before searching dead enemy bodies. The EPW collection point should provide cover and should not be easily found by enemy forces following the ambush. The friendly assault element searches from the far side of the kill zone to the near side.
  - k. Once the bodies have been thoroughly searched, search teams continue in this manner until all enemy personnel in and near the kill zone have been searched. Enemy bodies should be marked once searched; for example, folded arms over the chest and legs crossed to ensure thoroughness and speed and to avoid duplication of effort.
  - l. The platoon identifies and collects equipment to be carried back and prepares it for transport. Enemy weapon chambers are cleared and put on safe. The platoon also identifies and collects at a central point the enemy equipment to be destroyed. The demolition team prepares the fuse and awaits the signal to initiate. This is normally the last action performed before departing the ambush site. The flank security element returns to the ORP after the demolition team completes its task.
  - m. The flank security teams also may emplace antiarmor mines after the ambush has been initiated if the enemy is known to have armored vehicles which can quickly reinforce the ambushed enemy force. If a flank security team makes enemy contact, it fights as long as possible without becoming decisively engaged. It uses prearranged signals to inform the platoon leader it is breaking contact. The platoon leader may direct a portion of the support element to assist the security element in breaking contact.
807. What is the process for planning a withdrawal from the ambush site?
- a. The platoon leader must plan the withdrawal of the platoon from the ambush site. The planning process should include the following:
  - b. Elements normally are withdrawn in the reverse order they established their
  - c. positions.
  - d. Elements may return to the release point, then to the ORP, depending on the distance between the elements.
  - e. The security element at the ORP must be alert to assist the platoon's return. It
  - f. maintains security of the ORP while the remainder of the platoon prepares to depart.
808. What actions are taken at the ORP after an ambush?
- a. Actions back at the ORP include, but are not limited to, accounting for personnel and equipment, stowing captured equipment, and first aid (as necessary). Upon return personnel within the patrol are reorganized as required and ammunition and equipment redistributed for movement out of the ORP.
809. How do security patrols prevent surprise of the main body forces?

- a. Security patrols prevent surprise of the main body by screening to the front, flank, and rear of the main body and detecting and destroying enemy forces in the local area. Security patrols do not operate beyond the range of communication and supporting fires from the main body; especially mortar fires, because they normally operate for limited periods, and are combat-oriented. Security patrols are employed both when the main body is stationary and when it is moving. When the main body is stationary, the security patrol prevents enemy infiltration, reconnaissance, or attacks. When the main body is moving, the security patrol prevents the unit from being ambushed or coming into surprise chance contact.
810. What is the purpose of a reconnaissance patrol?
- a. A reconnaissance patrol proves or disproves the accuracy of information previously gained. The intent for this type of patrol is to avoid enemy contact and accomplish its tactical task without engaging in close combat. With one exception (reconnaissance in force patrol), reconnaissance patrols always try to accomplish their mission without being detected or observed. Because detection cannot always be avoided, a reconnaissance patrol carries the necessary arms and equipment to protect itself and break contact with the enemy. A reconnaissance patrol normally travels light, with as few personnel and as little arms, ammunition, and equipment as possible. This increases stealth and cross-country mobility in close terrain. Regardless of how the patrol is armed and equipped, the leader always plans for direct-fire contact with a hostile force. Leaders must anticipate where they may possibly be observed and control the hazard by emplacing measures to lessen their risk. If detected or unanticipated opportunities arise, reconnaissance patrols must be able to rapidly transition to combat.
811. What are the three types of reconnaissance patrols?
- a. The three types of reconnaissance patrols normally conducted by an Infantry platoon and squad are—
  - b. Area reconnaissance patrol.
  - c. Route reconnaissance patrol.
  - d. Zone reconnaissance patrol.
812. What do area reconnaissance patrols focus on?
- a. Area reconnaissance patrols focus on obtaining detailed information about the enemy activity, terrain, or specific civil considerations within a prescribed area. This area may include a town, a neighborhood, a ridgeline, woods, an airhead, or any other feature critical to operations. The area may consist of a single point (such as a bridge or an installation). Areas are normally smaller than zones and not usually contiguous to other friendly areas targeted for reconnaissance. Because the area is smaller, units conduct an area reconnaissance quicker than a zone reconnaissance.
813. What are some other techniques that fall under an area reconnaissance patrol?
- a. Other unique techniques falling
  - b. under an area reconnaissance patrol include:
  - c. Point.
  - d. Contact.

- e. Civil.
  - f. Tracking.
814. What is the role of the point reconnaissance patrol?
- a. Point reconnaissance patrol goes straight to a specific location and determines the situation there. As soon as it does so, it either reports the information by radio or returns to the larger unit to report. This patrol can obtain, verify, confirm, or deny extremely specific information for the platoon leader or commander.
815. What is contact reconnaissance patrol?
- a. Contact reconnaissance patrol is a special type of reconnaissance patrol sent from one unit to physically contact and coordinate with another. Modern technology has reduced, but not eliminated, the need for contact patrols. They most often are used today when a U.S. force must contact a non-U.S. coalition partner who lacks compatible communications or position-reporting equipment. Contact patrols may either go to the other unit's position, or the units can meet at a designated contact point. The leader of a contact patrol provides the other unit with information about the location, situation, and intentions of his own unit, and obtains and reports the same information about the contacted unit back to his unit. The contact patrol also observes and reports pertinent information about the area between the two units.
816. What is a civil reconnaissance patrol?
- a. Civil reconnaissance patrol is a targeted, planned, and coordinated observation and evaluation of specific civil aspects of the environment. Civil reconnaissance focuses on the civil component, the elements of which are best represented by ASCOPE. Priority information requirements focus on civil reconnaissance for purposes of collecting civil information to enhance situational understanding and facilitate decisionmaking. (Refer to FM 3-57 for more information.) Potential sources of civil information which a coordinated civil reconnaissance plan considers include:
  - b. Ongoing ASCOPE assessments of the area of operations.
  - c. Identified unknowns in civil information: Gaps identified during collation and analysis. Gaps remaining in the area study and area assessment.
  - d. Civil affairs interaction, including but not limited to: Host-nation government officials. Religious leaders. Tribal or clan leaders. Dislocated civilian camp leadership. Dislocated civilians on the move. Infrastructure managers and workers. Local industry personnel. Medical and educational personnel.
817. What is a tracking reconnaissance patrol?
- a. Tracking reconnaissance patrol is normally a squad-size, possibly smaller, element. It is tasked to follow the trail of a specific enemy unit in order to determine its composition, final destination, and actions en route. Patrol members look for subtle signs left by the enemy as he moves. As they track, they gather information about the enemy unit, the route it took, and surrounding terrain. Normally, a tracking patrol avoids direct fire contact with the tracked unit. Tracking patrols often use tracker dog teams to help them maintain the track.
818. What is the purpose of route reconnaissance?

- a. Obtains detailed information about a specified route and terrain where the enemy could influence movement along a route. Route reconnaissance focuses along a specific line of communications (such as a road, railway, or cross-country mobility corridor). It provides new or updated information on route conditions (such as obstacles and bridge classifications, and enemy and civilian activity along the route). A route reconnaissance includes not only the route itself, but also all terrain along the route from which the enemy could influence the friendly force's movement. The commander normally assigns this mission to use a specific route for friendly movement.
819. What does zone reconnaissance involve?
- a. Zone reconnaissance involves a directed effort to obtain detailed information on all routes, obstacles, terrain, enemy forces, or specific civil considerations within a zone defined by boundaries. Obstacles include both existing and reinforcing, as well as areas CBRN contamination. Commanders assign zone reconnaissance missions when they need additional information on a zone before committing other forces in the zone. Zone reconnaissance missions are appropriate when the enemy situation is vague, existing knowledge of the terrain is limited, or combat operations have altered the terrain. A zone reconnaissance may include several route or area reconnaissance missions assigned to subordinate units.
  - b. A zone reconnaissance is normally a deliberate, time-consuming process. It takes more time than any other reconnaissance mission, so the commander must allow adequate time to conduct it. A zone reconnaissance is normally conducted over an extended distance and starts from a line of departure. It requires all ground elements executing the zone reconnaissance to be employed abreast of each other. However, when the reconnaissance objective is the enemy force, a commander may forgo a detailed reconnaissance of the zone and focus assets on those named areas of interest that would reveal enemy dispositions and intentions. A reconnaissance unit cannot disregard terrain when focusing on the enemy. However, it minimizes its terrain reconnaissance to that which may influence a named areas of interest.
820. What control measures help leaders anticipate being detected?
- a. Control measures help leaders anticipate being detected. They include:
  - b. Rendezvous point: a location designated for an arranged meeting from which to begin an action or phase of an operation or to return to after an operation. This term generally is synonymous with linkup point.
  - c. Release point: a location on a route where marching elements are released from centralized control. (Refer to FM 3-90-1 for more information.) The release point also is used after departing the objective rally point.
  - d. Linkup point: a point where two infiltrating elements in the same or different infiltration lanes are scheduled to consolidate before proceeding with their missions. (Refer to FM 3-90-1 for more information.)
821. What are the seven fundamentals of reconnaissance?

- a. Leaders use the seven fundamentals of reconnaissance to organize their patrols into two forces: a reconnaissance element, and a security element. The seven fundamentals are—
  - b. Ensure continuous reconnaissance.
  - c. Do not keep reconnaissance assets in reserve.
  - d. Orient on the reconnaissance objective.
  - e. Report information rapidly and accurately.
  - f. Retain freedom of maneuver.
  - g. Gain and maintain enemy contact.
  - h. Develop the situation rapidly.
822. What is the task of a reconnaissance element?
- a. The reconnaissance element's task is to obtain information requirements for the purposes of facilitating tactical decisionmaking. The primary means is R&S enabled by tactical movement and continuous, accurate reporting. The reconnaissance patrol leader decides how in-depth the reconnaissance will be. A thorough and accurate reconnaissance is important. However, avoiding detection is equally important.
  - b. Below are some of the additional tasks normally associated with a reconnaissance element:
  - c. Reconnoiter all terrain within the assigned area, route, or zone.
  - d. Determine trafficability routes or potential avenues of approach (based on the personnel or vehicles to be used on the route). Inspect and classify all bridges, overpasses, underpasses, and culverts on the route. Locate fords or crossing sites near bridges on the route.
  - e. Determine the time it takes to traverse the route.
  - f. Reconnoiter to the limit of direct fire range. Terrain influencing the area, route, or zone. Built-up areas. Lateral routes.
  - g. Within capabilities, reconnoiter natural and man-made obstacles to ensure mobility along the route. Locate a bypass or reduce/breach, clear, and mark—
  - h. Lanes.
  - i. Defiles and other restrictive/severely restrictive terrain.
  - j. Minefields.
  - k. Contaminated areas.
  - l. Log obstacles such as abatis, log cribs, stumps, and posts.
  - m. AT ditches.
  - n. Wire entanglements.
  - o. Fills, such as a raised railroad track.
  - p. Other obstacles along the route.
  - q. Determine the size, location, and composition of society/human demographics.
  - r. Identify essential infrastructure influencing military operations, including the
  - s. following:
  - t. Political, government, and religious organizations and agencies. Physical facilities and utilities (such as power generation, transportation, and

communications networks). Find all threat forces influencing movement along the area, route, or zone. Report information.

823. What are the tasks of the security element?
- The security element has two tasks: provide early warning of approaching enemy; and provide support by fire to the reconnaissance elements if they come in contact with the enemy. The security element's purpose is to protect the reconnaissance element, thereby allowing it to obtain the information requirement. Security elements tasked to provide early warning must be able to observe avenues of approach into and out of the objective area. If the reconnaissance element is compromised, the security element must be able to quickly support it. It does so by occupying positions enabling it to observe the objective as well as cover the reconnaissance element. Soldiers in these positions must be able to engage the enemy with direct and indirect fire. They also must be able to facilitate communication to higher as well as all supporting assets. This worst-case scenario must be well rehearsed and well thought out.
824. How do R&S elements maintain security?
- Regardless of how the R&S elements are organized, each element always maintains responsibility for its own local security. In a small reconnaissance patrol, the patrol headquarters may form a part of one of the subordinate elements rather than being a separate element. The number and size of the various teams and elements must be determined through the leader's METT-TC analysis. There are three ways to organize the R&S elements.
825. What situations would require the separation of recon elements from security elements?
- The first technique is to organize the reconnaissance elements separate from security elements. This technique is used when the security element is able to support the reconnaissance element from one location. This requires the reconnaissance objective to be defined clearly and area to be fairly open.
  - The second technique is to organize the reconnaissance elements and security elements together into R&S teams. This technique is used when the reconnaissance objective is not defined clearly or the teams are not mutually supporting and each reconnaissance element potentially needs its own security force. Within the R&S team, the reconnaissance can be done by one or two individuals while the rest of the element provides security. The number of Soldiers in an R&S team varies depending on the mission. Usually a fire team (three to four Soldiers) is required for an adequate reconnaissance and still provide local security. The third technique is to establish R&S teams with an additional, separate security element. The separate security element also-can act as a reserve or as a quick reaction force.
826. When does reconnaissance begin?
- The actual reconnaissance begins at the designated transition point and ends with a follow-on transition to tactical movement away from the reconnaissance objective. Leaders mark the follow-on transition point with a control measure similar to the first transition point, using a linkup point, rendezvous point, a LOA,

or a phase line. During this phase, leaders execute one of the three forms of reconnaissance (area, zone, or route). These forms of reconnaissance are distinguished by the scope of the reconnaissance objective. The forms of reconnaissance patrols Infantry units conduct are area, zone, and route.

827. What method is used to plan for reconnaissance?
- To plan for a reconnaissance, use the reverse-planning process. The leader first determines the reconnaissance objective, an information requirement corresponding to the terrain or enemy in a specific area, route, or zone; it may be designated by a control measure such as named areas of interest, checkpoints, objective, route, phase lines, or boundaries. Once the leader has clarified the reconnaissance objective, he determines the observation plan enabling the patrol to obtain the information required. After determining the observation plan, the leader determines the tactical movement necessary to position the patrol to achieve his observation plan.
828. Information requirements are the basis for what items of information?
- Information requirements are the basis for the development of the CCIRs, the answers to which are needed to allow commanders to make tactical decisions. The controlling headquarters must clearly define the information requirements it wants the patrol to determine. The patrol leader must clarify these information requirements prior to conducting the mission. Table 6-2 (page 6-48) illustrates an example matrix used to capture the information requirements for the headquarters' collection plan.
829. What determines the information requirement?
- Information requirement can be enemy-oriented, terrain-oriented, civil-oriented, or a combination. It is important the leader clarifies the requirement prior to conducting the reconnaissance. Knowing this orientation enables the leader to demonstrate the initiative required to meet the higher leader's information requirement.
  - Terrain-oriented information requirements focus on determining information on the terrain of a particular area, route, or zone. While the unit looks for enemy presence, the overall intent is to determine the terrain's usefulness for friendly purposes. For example, the company commander may send out a squad-sized reconnaissance patrol to identify a location for the company's future AA. The patrol leader may send out a squad-sized reconnaissance patrol to obtain information about a bridge on a proposed infiltration route.
  - Enemy-oriented information requirements focus on finding a particular enemy force. The purpose of enemy-oriented reconnaissance is to confirm or deny planning assumptions. While the unit may be given a terrain feature as a reference point, the overall intent is to find the enemy. This means if the enemy is not in the location referenced, the leader must demonstrate the initiative to find the enemy force within his given parameters.
  - Civil-oriented information requirements focus on determining information on the human environment in a particular area, route, or zone. A civil-oriented information requirement is a larger, vaguer category requiring more clarification

than the other two categories. Examples of civil-oriented information requirements are the physical infrastructures; service infrastructures such as sewer, water, electric, and trash; the political situation; demographics; and dislocated civilians.

830. What occurs once the patrol leader understands the information requirement?
- Once the patrol leader understands the information requirement, he then determines how he will obtain it by developing an observation plan. The leader captures the observation plan as part of the patrol leader's COA sketch. This is done by asking two basic questions:
  - What is the best location to obtain the information required?
  - What is the best way to obtain the information without compromising the patrol?
831. What determines the best location to obtain the information required?
- The answer to the first question is: all vantage points and observation posts from which the patrol can best obtain the required information. A vantage point is a temporary position enabling observation of the enemy. It is meant to be occupied only until the enemy activity is confirmed or denied. The answer to the second question is: use the routes and number of teams necessary to occupy the vantage points and observation posts. An observation post is a position where military observations can be made, and fire can be directed and adjusted. Observation posts must possess appropriate communications. The observation post can be short-term (12 hours or less) or long-term, depending upon guidance from higher. Unlike a vantage point, the observation post normally is occupied and surveillance is conducted for a specified period.
832. From what perspective does the patrol view the reconnaissance objective?
- The patrol views the reconnaissance objective from as many perspectives as possible, using whatever combinations of observation posts and vantage points are necessary. The leader selects the tentative locations for patrol's vantage points, observation posts, and movement after analyzing METT-TC. These locations are proposed and are confirmed and adjusted as necessary by the actual leader on the ground. From his analysis, the leader determines how many vantage points and observation posts he must establish and where to position them. Once he decides on these general locations, he designs the routes for necessary movement between these and other control measures (such as the release points and linkup points). Positions should have the following characteristics:
  - Covered and concealed routes to and from each position.
  - Unobstructed observation of the assigned area, route, or zone. Ideally, the fields of observation of adjacent positions overlap to ensure full coverage.
  - Cover and concealment. Leaders select positions with cover and concealment to reduce their vulnerability on the battlefield. Leaders may need to pass up a position with favorable observation capability but no cover and concealment to select a position affording better survivability.
  - A location not attracting attention. Positions should not be sited in such locations as a water tower, an isolated grove of trees, or a lone building or tree. These

positions draw enemy attention and may be used as enemy artillery target registration posts.

- f. A location not skylining the observers. Avoid hilltops. Locate positions farther down the slope of the hill or on the side, provided there are covered and concealed routes into and out of the position.
833. What are the two types of positions selected by recon patrols?
- a. The locations selected by the patrol are either long range or short range. Longrange positions must be far enough from the objective to be outside enemy's small-arms weapons, sensors, and other local security measures. Long-range positions are the most desirable method for executing a reconnaissance because the patrol does not come in close enough to be detected. If detected, the patrol is able to employ direct and indirect fires. Therefore, it is used whenever METT-TC permits the required information to be gathered from a distance. Security must be maintained by—
  - b. Selecting covered and concealed observation posts.
  - c. Using covered and concealed routes in and around the operations area.
  - d. Deploying security elements, including sensors, to give early warning, and providing covering fire if required.
834. What are the characteristics of short-range positions?
- a. Short-range positions are within the range of enemy local security measures and small-arms fire. When information required cannot be obtained by a long-range position, reconnaissance elements move closer to the objective. The vantage points and routes used during short-range observation should be planned carefully and verified prior to using them. Doing so prevents detection by the enemy or friendly units from stumbling into one another or covering ground already passed over by another element.
835. What is area reconnaissance?
- a. Area reconnaissance is a directed effort to obtain detailed information concerning the terrain or enemy activity within a prescribed area. The area may be given as a grid coordinate, an objective, on an overlay. In an area reconnaissance, the patrol uses vantage points or observation posts around the objective to observe it and surrounding area.
836. Actions at the objective for an area reconnaissance begin with the patrol in the ORP, and end with a dissemination of information after a linkup of the patrol's subordinate units. The critical actions include:
- a. Actions from the objective rally point.
  - b. Execute the observation plan.
  - c. Linkup and continue the mission.
837. What actions does the recon patrol take from the ORP?
- a. The patrol occupies the ORP and conducts associated priorities of work. While the patrol establishes security and prepares for the mission, the patrol leader and selected personnel conduct a leader's reconnaissance. The leader must accomplish three things during this reconnaissance: pin point the objective and

establish surveillance, identify a release point and follow-on linkup point (if required), and confirm the observation plan.

838. What actions does the patrol leader take upon returning from leader's recon?
- Upon returning from the leader's reconnaissance, the patrol leader disseminates information and FRAGORDs as required. Once ready, the patrol departs. The leader first establishes security. Once security is in position, the reconnaissance element moves along the specified routes to the observation posts and vantage points in accordance with the observation plan.
839. What actions are taken upon nearing the objective?
- On nearing the objective, the patrol leader should establish a forward release point. It should be sited so it is well-hidden, no closer than 200 meters from known enemy patrol routes, observation posts, or sentry positions. The forward release point provides the patrol leader with a temporary location close to the objective from which he can operate. While the close reconnaissance is in progress, it should be manned by the patrol second in charge and RTO. Only vital transmissions should be made while in the forward release point. The volume setting should be as low as possible on the radio, and if available, the operator should use an earphone.
840. What actions does the close reconnaissance team make at the forward release point?
- The close reconnaissance team should make its final preparation in the forward release point. Movement from the forward release point must be slow and deliberate. Leaders should allow sufficient time for the team to obtain the information. If time is limited, the team should only be required to obtain essential information. If the enemy position is large, or time is limited, the leader may employ more than one close reconnaissance team. If this occurs, each patrol must have clearly defined routes for movement to and from the forward release point. They also must have clearly defined areas in which to conduct their reconnaissance in order to avoid clashes.
841. What elements does the close reconnaissance team normally consist of?
- The close reconnaissance team normally consists of one to two observers and two security men. The security men should be close enough to provide protection to the observer, but far enough away so his position is not compromised. When moving in areas close to the enemy position, only one man should move at one time. Accordingly, bounds should be short. Once in position, the patrol observes and listens to acquire the needed information. No eating, no talking, and no unnecessary movement occurs at this time. If the reconnaissance element cannot acquire the information needed from its initial position, it retraces the route and repeats the process. This method of reconnaissance is extremely risky. The reconnaissance element must remember the closer it moves to an objective, the greater the risk of being detected.
842. What may be used when information cannot be gathered from one observation post?
- When information cannot be gathered from just one observation post or vantage point, successive points may be used. Once determined, the leader decides how

his patrol will actually occupy them. The critical decision is determining the number of teams in the reconnaissance element. The advantages of a single team are the leader's ability to control the team, and a decreased probability of enemy detection. The disadvantages of a single team are the lack of redundancy, and the objective area is observed with just one team. The advantages of using multiple teams include providing the leader redundancy in accomplishing his mission, and ability to look at the objective area from more than one perspective. The disadvantages include the increased probability of being detected by the enemy, and increased difficulty in controlling the teams. The leader may include a surveillance team in his reconnaissance of the objective from the ORP. He positions these surveillance teams while on the reconnaissance. He may move them on one route, posting them as they move, or he may direct them to move on separate routes to their assigned locations.

843. Who establishes security at the ORP?
- The subordinate leader responsible for security establishes security at the ORP and positions other security teams as required on likely enemy avenues of approach into the objective area.
844. Why are route recons conducted?
- A route reconnaissance is conducted to obtain detailed information about one route and all its adjacent terrain, or to locate sites for emplacing obstacles. Route reconnaissance is oriented on a road, a narrow axis such as an infiltration lane, or on a general direction of attack. Patrols conducting route reconnaissance operations attempt to view the route from both the friendly and enemy perspective. Infantry platoons and squads require augmentation with technical expertise for a complete detailed route reconnaissance. However, platoons are capable of conducting hasty route reconnaissance or area reconnaissance of selected route areas.
845. What information is obtained from a route recon?
- Route reconnaissance is conducted to obtain and locate the following:
  - Detailed information about trafficability on the route and all adjacent terrain.
  - Detailed information about an enemy activity or enemy force moving along a route.
  - Sites for emplacing hasty obstacles to slow enemy movement.
  - Obstacles, chemical, biological, radiological and nuclear contamination, and so forth.
846. What element can also be tasked to conduct a route reconnaissance?
- The Infantry platoon and squad also can be tasked to survey a route in a planned infiltration lane. After being briefed on the proposed infiltration, the patrol leader conducts a thorough map reconnaissance and plans a series of fans along the route. (See figure 6-16.) The coverage must reconnoiter all intersecting routes for a distance greater than the range at which enemy direct-fire weapons could influence the infiltrating forces.
847. What conditions likely prevent enemy movement?

- a. The platoon reports conditions likely to affect friendly movement. These conditions include:
  - b. Presence of the enemy.
  - c. Terrain information.
  - d. Location and condition of bypasses, fords, and obstacles.
  - e. Choke points.
  - f. Route and bridge conditions.
848. What must happen if the route is a road?
- a. If all or part of the proposed route is a road, the leader must treat the road as a danger area. The platoon moves parallel to the road, using a covered and concealed route. When required, R&S teams move close to the road to reconnoiter important areas. The platoon plans a different route for its return.
849. What is the purpose a control measure for route reconnaissance? How should the leader submit a patrol report to higher elements?
- a. Control measures for a route reconnaissance create an area of operation for the unit conducting the reconnaissance. (Refer to ATP 3-20.98 for more information.) The leader should submit the patrol report in an overlay format including:
  - b. Two grid references (required).
  - c. Magnetic north arrow (required).
  - d. Route drawn to scale (required).
  - e. Title block (required).
  - f. Route classification formula (required).
  - g. Road curves with a radius of less than 45 degrees.
  - h. Steep grades and maximum gradients.
  - i. Road width of constrictions such as bridges and tunnels, with the widths and lengths of the traveled ways (in meters).
  - j. Underpass limitations with limiting heights and widths.
  - k. Bridge bypasses classified as easy, hard, or impossible.
  - l. Civil or military road numbers or other designations.
  - m. Locations of fords, ferries, and tunnels with limiting information.
  - n. Causeways, snow sheds, or galleries if they are in the way. Data about clearance and load-carrying capacity should be included to permit an evaluation to decide whether to strengthen or remove them.
850. Why is a zone reconnaissance conducted?
- a. A zone reconnaissance is conducted to obtain information on enemy, terrain, and routes within a specified zone. Zone reconnaissance techniques include the use of moving elements, stationary teams, or multiple area reconnaissance actions.
851. How is route recon conducted when moving elements are used?
- a. When moving elements are used, the elements (squads or fire teams) move along multiple routes to cover the whole zone. When the mission requires a unit to saturate an area, the unit uses one of the following techniques: the fan; the box; converging routes; or successive sectors.
852. What are procedures for conducting recon using the fan method?

- a. When using the fan method, the leader first selects a series of ORPs throughout the zone to operate from. The patrol establishes security at the first ORP. Upon confirming the ORP location, the leader confirms reconnaissance routes out from and back to the ORP. These routes form a fan-shaped pattern around the ORP. The routes must overlap to ensure the entire area is reconnoitered. Once the routes are confirmed, the leader sends out R&S teams along the routes. When all R&S teams have returned to the ORP, the platoon collects and disseminates all information to every Soldier before moving on to the next ORP. Each R&S team moves from the ORP along a different fan-shaped route overlapping with others to ensure reconnaissance of the entire area. (See figure 6-17.) These routes should be adjacent to each other. Adjacent routes prevent the patrol from potentially making contact in two different directions. The leader maintains a reserve at the ORP.
853. How is the box method used to conduct recon?
- a. When using the box method, the leader sends his R&S teams from the ORP along routes forming a boxed-in area. He sends other teams along routes through the area within the box. (See figure 6-18.) All teams meet at a linkup point at the far side of the box from the ORP.
854. How is the converging routes method used to conduct recon?
- a. When using the converging routes method, the leader selects routes from the ORP through the zone to a rendezvous point at the far side of the zone from the ORP. Each R&S team moves along a specified route and uses the fan method to reconnoiter the area between routes. (See figure 6-19, page 6-56.) The leader designates a time for all teams to linkup. Once the unit arrives at the rendezvous point, it halts and establishes security.
855. What is the successive sector method of recon?
- a. The successive sector method is a continuation of the converging routes method. (See figure 6-20.) The leader divides the zone into a series of sectors. The platoon uses the converging routes within each sector to reconnoiter to an intermediate linkup point where it collects and disseminates the information gathered to that point. It then reconnoiters to the next sector. Using this method, the leader selects an ORP, a series of reconnaissance routes, and linkup points. The actions from each ORP to each linkup point are the same as in the converging routes method. Each linkup point becomes the ORP for the next phase. Upon linkup at a linkup point, the leader again confirms or selects reconnaissance routes, a linkup time, and next linkup point. This action continues until the entire zone has been reconnoitered. Once the reconnaissance is completed, the unit returns to friendly lines
856. What does the patrol leader do when reentering the recon PB?
- a. Immediately on reentering the secure base or rejoining the unit, the patrol leader should positively verify all members of the patrol and attachments, prisoners, or detainees are accounted for. The patrol leader should check in with the company or battalion command post as soon as possible after entering the base location or rejoining the unit.

- b. Additional post patrol activities will include:
  - c. Account for weapons and equipment.
  - d. Debrief.
  - e. Patrol report.
857. What is the recon patrol leader responsible for?
- a. The patrol leader is responsible for verifying all the patrol's weapons, ammunition, munitions and equipment are properly accounted for and reporting the status to the commander or the operations center. Lost or missing equipment must be reported immediately. The patrol may be ordered to return to the area where it was lost, if it is assessed safe to do so, and try to find the item.
858. What should the patrol leader do immediately upon reentering base?
- a. The patrol leader should conduct a "debrief" with the entire patrol as soon as possible after entering the base or rejoining the main body. This allows him to capture lowlevel information while the Soldiers' memories are fresh and information relevant. He should go over the notes taken by the patrol scribe chronologically to facilitate the discussion. Every patrol member should participate. If there was an interpreter or other attachments with the patrol, they should be debriefed as a source of human intelligence by allowing them to pass on information they obtained during the patrol. The patrol leader includes significant information necessary during the debriefing of his patrol report to the commander.
859. What is the process for a debriefing?
- a. Normally the debriefing is oral. Sometimes a written report is required. Information on the written report should include:
  - b. Size and composition of the unit conducting the patrol.
  - c. Mission of the platoon such as type of patrol, location, and purpose.
  - d. Departure and return times.
  - e. Routes. Use checkpoints, grid coordinates for each leg or include an overlay.
  - f. Detailed description of terrain and enemy positions identified.
  - g. Results of contact with the enemy.
  - h. Unit status at the conclusion of the patrol mission, including the disposition of dead or wounded Soldiers.
  - i. Number of isolated Soldiers platoon/squad unable to recover during execution of the mission.
  - j. Conclusions or recommendations.
860. Who is responsible for the development of the patrol report?
- a. The patrol leader is responsible for the patrol report, and may be assisted by his assistant patrol leader and specialist personnel attached to the patrol. Immediately after the debriefing, the patrol leader should render his patrol report to the commander. This report may be verbal or written, simple, or elaborate depending on the situation and commander's requirements.
  - b. The commander may have the patrol leader render his report to the battalion intelligence officer or to the duty officer at the battalion command post, especially during stability. The patrol report (see figure 6-23, page 6-60) should include a

description of the actual route taken by the patrol (as opposed to the planned route), including halt locations. If the unit uses digital mission command systems automatically tracking and displaying the patrol's route, the information is known already. If not, the patrol leader reports it.

- c. When GPS devices are used by the patrol, gathering route information is easier and faster. The actual route the patrol took is important for planning future patrol routes and actions. Enemy intelligence operations attempt to identify pattern settings by U.S. and coalition patrols, including the locations of halts. This may result in attack against locations regularly used by security forces. Additional information may include the number of biometric enrollments and identification on the BEWL; was anyone detained according to the instructions on the BEWL; and what is the status?

861. What is sustainment?

- a. Sustainment is the provision of logistics, personnel services, and HSS necessary to maintain operations until successful mission completion. In the Infantry platoon, the BFV platoon, and the Stryker platoon, the platoon leader handles sustainment; the platoon sergeant and squad leader have the ultimate responsibility for sustainment. The platoon sergeant is the platoon's primary sustainment operator; he works closely with the company executive officer and first sergeant to ensure he receives the required support for the platoon's assigned missions. Sustainment responsibilities and procedures in the platoon remain basically the same. The company normally forecasts supplies and "pushes" rather than "pulls" them to the platoon. This chapter covers: responsibilities, unit combat and basic loads, trains, and functions of sustainment.

862. Who must plan and prepare its portion of the sustainment plan? What are sustainment responsibilities for the Infantry platoon and squad?

- a. The Infantry platoon and squad must plan, prepare, and execute its portion of the Infantry company sustainment plan. Concurrent with other operational planning, the platoon develops its sustainment plan during the mission analysis and refines it in the wargaming portion of the TLP. Rehearsals normally are conducted at each echelon to ensure the smooth, continuous flow of materiel and services.
- b. Sustainment responsibilities for the Infantry platoon and squad include—report and request support requirements through the company and ensure sustainment operations are properly executed when support elements arrive in the platoon area. The platoon sergeant is normally in charge of these functions, with guidance and oversight provided by the platoon leader. The platoon sergeant must submit accurate personnel and logistical reports, along with other necessary information and requests.

863. What is the PL responsible for in terms of sustainment?

- a. The platoon leader is responsible for his platoon's execution of the sustainment plan at platoon level. He plans and relays support requirements for mission accomplishment to the company headquarters where it is consolidated and passed on.

864. Who is the platoon's primary sustainment planner, coordinator, and operator?
- The platoon sergeant is the platoon's primary sustainment planner, coordinator, and operator; reporting directly to the platoon leader. He executes the platoon's logistical plan, relying heavily on platoon and company SOPs. The platoon sergeant directly supervises and controls the platoon's assets. During preparations of the mission, he works closely with the platoon leader and squad leaders to determine specific support requirements of the tactical plan. He then ensures proper arrangements are made to provide those support requirements.
865. What are squad leader sustainment duties?
- Squad leader sustainment duties include:
  - Ensuring Soldiers perform proper maintenance on all assigned equipment.
  - Ensuring Soldiers maintain personal hygiene.
  - Compiling personnel and logistics reports of the platoon and submitting them to the platoon sergeant as directed or in accordance with unit SOP. Obtaining supplies, equipment (except Class VIII), and mail from the platoon sergeant and ensuring proper distribution. Cross-leveling supplies and equipment throughout the squad. It is vital the squad leader ensures all squad members carry their own improved first aid kit to sustain survivability.
866. What is a critical leader task in terms of every individual soldier?
- Determining the Soldier's load is a critical leader task. The Soldier's load is always METT-TC dependent and must be closely monitored. Soldiers cannot afford to carry unnecessary equipment into battle. The primary consideration is not "how" much a Soldier can carry, but how much can he carry "without" impairing his combat effectiveness. While Leaders cannot be prepared for all contingencies, they must learn to prepare for the most likely based on available information. (Refer to FM 21.18 for detailed information.)
867. What are considerations for the individual soldier load?
- The Soldier's load is a main concern of the leader. How much is carried, how far, and in what configuration are important mission considerations. Commanders and leaders must balance the risk to their soldiers from the enemy against the risk to mission accomplishment due to excess loads, soldier exhaustion, and injury. Leaders must ensure that soldiers travel as light as possible. Commanders and leaders must be willing to accept calculated risks to reduce the soldier's load and they should base load limits on well thought out METT-TC analysis.
  - Personal protection equipment constitutes the largest weight category of Soldiers load. The greatest PPE weight is body armor that additionally limits the Soldier's ability to maintain body core temperature and, to varying degrees, regulate breathing due to constriction of the torso. Depending on mission variables and environmental conditions, commanders and leaders may adjust the level of body armor protection or even remove body armor balancing an increased risk to individual soldiers to improve the likelihood of mission accomplishment.
  - Equipment and ammunition loads must be tailored to mission requirements and the likely enemy threat. For example, if the enemy threat does not include armor formations, leaders may not include the Javelin CCMS. In certain circumstances,

it may be appropriate for units to carry additional small arms ammunition due to sustainment constraints. In other circumstances, based on the enemy threat and historical analysis it may be necessary to carry mine detectors but not ECM equipment.

- d. The platoon's planning and preparation processes will include detailed load planning and calculation. This assists leaders and Soldiers in organizing tactical loads to manage energy expenditure and combat effectiveness. (See table 7-1.)
868. How should excess loads be mitigated? What are the consequences of excessive load?
- a. Maximum effort should be placed on echeloning excess loads. Leaders must resist the mindset that we must carry everything to be prepared for every eventuality. Leaders at the lowest levels must enforce load discipline to ensure that soldiers do not voluntarily carry excess weight. Additionally, leaders must rely on the chain of command to deliver equipment forward for subsequent operations.
  - b. An excessive load reduces energy and agility. A Soldier carrying an excessive load is at a disadvantage when he must react to enemy contact. Conversely, if the load is tailored to be light, leaders may make a decision to leave behind mission-essential or crucial equipment to balance the load. Sometimes a Soldier must carry more than the recommended combat load. However, leaders must realize how this will affect the unit's overall effectiveness. (FM 21.18 provides additional information on a Soldier's load.)
  - c. Infantry forces are designed to be flexible and responsive in all types of terrain and environments, and for this reason, they consist mainly of foot-mobile fighters. Their success depends on the ability of Infantry Soldiers to deliver the appropriate weapon systems and materiel, to the decisive place on the battlefield in a timely manner; while at the same time, maintaining the ability to defeat the enemy and survive. The Soldier's load is managed at the company and platoon level; however, standards are established at the battalion level using planning considerations to ensure Soldiers are properly equipped, and mentally and physically ready for combat.
869. What is a combat load determined by?
- a. A combat load is determined by the mission leader and consists of only what is necessary to fight and survive immediate combat operations. The levels of combat loads are—
  - b. Fighting loads.
  - c. Approach march loads
  - d. Emergency approach march loads
870. What is a fighting load?
- a. A fighting load is the essential items the Soldier needs to fight, such as, weapon, UBL of ammo and grenades, night vision goggles, and protective mask. Items can be added or removed based on METT-TC and other factors. Excessive combat loads of assaulting troops must be configured so the excess can be

redistributed or shed (leaving only the fighting load) before or upon contact with the enemy.

871. What is an approach march load?
- An approach march load contains those operational essential equipment that are needed for extended operations, in addition to the fighting load. These items are dropped in an assault position, ORP, or other rally point, before or upon contact with the enemy. Soldiers must carry enough equipment and munitions to fight and exist until a planned resupply can take place.
872. When are soldiers required to carry excess loads? What are considerations for having soldiers carry excess loads?
- Circumstances could require Soldiers to carry excess loads (greater than 45 percent of body weight) such as approach marches through terrain impassable to vehicles or where ground and air transportation resources are not available. (Refer to FM 21.18 for detailed information.)
  - These emergency approach march loads can be carried by well-conditioned Soldiers. Although loads of up to 70 percent or more of an individual body weight are feasible, the Soldier will become fatigued or possibly injured. If possible, contact with the enemy should be avoided since march speeds will be slowed tremendously
873. Is that platoon's combat load constant?
- The platoon's combat load varies by mission and includes the supplies physically carried into the fight. The leader may direct minimum requirements or be specific for composition of the combat load. Often, the unit SOP or the platoon leader specifies most items. The unit basic load includes supplies kept by the platoon for use in combat. The quantity of most unit basic load supply items depends on how many days in combat the platoon might have to sustain itself without resupply. For Class V ammunition, the higher commander or SOP specifies the platoon's basic load.
874. What is a sustainment load?
- A sustainment load consists of the equipment required by the company commander for sustained operations. This equipment usually is stored by the company supply section in the field trains and brought forward when needed. A sustainment load can include rucksacks, squad duffel bags, and sleeping bags. In combat, protective items for specific threats may be stored in preconfigured unit loads.
875. Who is responsible for planning sustainment operations
- Planning sustainment operations is primarily a company- and battalion-level operation. While the company commander and executive officer plan the operation, the platoon leader is responsible for execution at platoon level.
876. Sustainment at the Infantry platoon level is characterized by the following:
- Responsiveness.
  - Economy.
  - Flexibility.
  - Integration.

- e. Survivability.
877. What does sustainment need in order to be effective?
- a. To be effective sustainment needs to be responsive. This requires users to provide timely requests for supplies and support while requiring providers to anticipate user needs in advance.
878. How do sustainment providers exercise efficiency?
- a. To be efficient, sustainment providers and users exercise conservation. Because resources always are limited, it is in the best interest of everyone to use only what is needed. The principle of economy necessitates that Soldiers, leaders, and their units conserve resources whenever possible. This also ensures other Soldiers and units will have the supplies they need.
879. What does the principle of flexibility embody?
- a. The principle of flexibility embodies the chaotic nature of combat. Providers and users alike remain aware that, despite the best efforts of all involved, things seldom go as planned; shipments are delayed, convoys are attacked, and supplies are destroyed. Supporting the needs of both the individual unit and the rest of the units on the battlefield requires both the user and provider to know what they need, when they need it and possible substitutes.
880. What do sustainment operations need to be in order to function properly?
- a. To function properly, sustainment considerations must be integrated into every aspect of an operation. Sustainment is not branch or rank specific; it is an essential part of all operations at all levels by all Soldiers. Again, without sustainment units cannot accomplish their mission.
881. On the whole, sustainment assets are necessary yet finite resources that are easily destroyed. What does this mean?
- a. Units without their classes of supply cannot fight. Accordingly, survivability of sustainment assets is a high priority for everyone. This affects the platoon in two ways. First, units may be required to conduct security missions for sustainment assets, such as convoy security, base security, and response force activities. Second, units must ensure the survivability of their own supplies and any asset that might be under their charge by properly safeguarding them.
882. Sustainment for mounted platoons are additionally characterized by the following:
- a. Anticipation.
  - b. Simplicity.
  - c. Continuity.
  - d. Improvisation.
883. How is sustainment integrated into operational planning?
- a. Sustainment planning is fully integrated into all operational planning. The company SOP should be the basis for sustainment operations, with planning conducted to determine specific requirements and to prepare for contingencies. The platoon order should address specific support matters of the mission. Deviations from the sustainment SOPs should be covered early in the planning process. In some situations, sustainment planning begins before receipt of the mission, as part of the ongoing process of refining the sustainment plan.

884. How does the infantry PL develop his sustainment plan?
- a. The Infantry platoon leader develops his sustainment plan by determining exactly what he has on hand to accurately estimate his support requirements. It is critical for the company to know what the platoon has on hand for designated critical supplies. This process is important not only in confirming the validity of the sustainment plan but also in ensuring the platoon's support requests are submitted as early as possible. The platoon leader can formulate his sustainment execution plan and submit support requests based on the results of his maneuver plan.
  - b. What questions should the sustainment plan answer?
  - c. The sustainment plan should provide answers to operational questions such as the following:
    - d. Types of support. Based on the nature of the operation and specific tactical factors, what types of support will the platoon need?
    - e. Quantities. In what quantities will this support be required?
    - f. Will emergency resupply (Class III and V) be required during the battle?
    - g. Does this operation require prestocked supplies?
    - h. Threat. What are the composition, disposition, and capabilities of the expected enemy threat?
    - i. How will these affect sustainment plan during execution?
    - j. Where and when will the expected contact occur?
    - k. What are the platoon's expected casualties and vehicle losses based on the nature and location of expected contact?
    - l. What impact will the enemy's special weapons capabilities (such as CBRN) have on the battle and on expected sustainment requirements?
    - m. How many EPWs are expected, and where?
    - n. Terrain and weather. How will terrain and weather affect sustainment plan during the battle?
    - o. What ground will provide the best security for maintenance and CCPs?
    - p. What are the platoon's vehicle and casualty evacuation routes?
    - q. What are the company's dirty routes for evacuating contaminated personnel, vehicles, and equipment?
    - s. Time and location. When and where will the platoon need sustainment?
    - t. Based on the nature and location of expected contact, what are the best sites for the CCP?
    - u. Where will the EPW collection points be located?
    - v. Requirements. What are the support requirements, by element and type of support?
    - w. Which section has priority for emergency Class III resupply?
    - x. Which section or squad has priority for emergency Class V resupply?
    - y. Risk. Will lulls in the battle permit support elements to conduct resupply operations in relative safety?
    - z. Resupply techniques. Based on information developed during the sustainment planning process, which resupply technique should the platoon use?

885. What are the general classes of resupply?
- The general classes of resupply operations are routine, emergency, or prestock. The Infantry platoon and squad SOP specifies cues and procedures for each method, which the platoon and squad rehearse during training exercises. The actual method selected for resupply in the field depends on METT-TC.
886. What are the 10 classes of supply?
- Supplies are divided into 10 major categories, which are referred to as classes. They are:
  - Class I - Food, rations and water.
  - Class II - Clothing.
  - Class III - Petroleum, oil, and lubricants.
  - Class IV- Fortification and barrier materials.
  - Class V - Ammunition.
  - Class VI - Personal items.
  - Class VII - Major end items.
  - Class VIII - Medical materiel and supplies (including blood, blood products, and repair parts for medical items).
  - Class IX - Repair parts.
  - Class X - Miscellaneous supplies.
887. What are the three types of resupply operations?
- Resupply operations fall into one of three classifications: routine, emergency, or prestock. The platoon and company SOP specifies cues for each method. The platoon should rehearse or conduct resupply operations every time they conduct field training. The actual method selected for resupply in the field depends on METT-TC.
888. What is the process for requesting supplies?
- The Infantry platoon must provide supply requests to the company in order to receive supplies. Based on the requests, he then assembles the LOGPAC under the supervision of the FSC or the headquarters company (HHC) or FSC commander. He obtains the following: Class I, Class III (bulk and packaged products), and Class V supplies from the forward support company. This usually entails employment of one or two fuel heavy expanded mobility tactical trucks (HEMTT) and one or two cargo HEMTT. Class II, Class IV (basic load resupply only), Class VI, and Class VII supplies from Infantry battalion S-4 personnel in the field trains. Routine Class IX supplies and maintenance documents (as required) from the prescribed load list section in the field trains. Replacement personnel and Soldiers returning from a medical treatment facility. Vehicles returning to the company area from maintenance. Mail and personnel action documents (including awards and finance and legal documents) from the battalion S-1 section. When LOGPAC preparations are completed, the supply sergeant initiates tactical movement to the LRP under the supervision of the FSC, support platoon leader. The supply sergeant and LOGPAC linkup with the company element (company XO, 1SG or security element from a platoon) at the LRP. When the company representative arrives at the LRP to pick up the Infantry

company LOGPAC, he updates all personnel and logistical reports and is briefed by the field trains officer in charge on changes to the tactical or support situation. He then escorts the convoy to the company resupply point, providing security during movement from the LRP.

889. What is an important planning factor for sustainment?
- a. The time required for resupply is an important planning factor. Units must conduct resupply as quickly and efficiently as possible to ensure operational effectiveness, and to allow the Infantry company LOGPAC to return to the LRP on time. Once the unit completes resupply operations, the unit prepares the LOGPAC vehicles for the return trip. The Infantry company vehicles requiring recovery for maintenance or salvage are lined up and prepared for towing. Cargo trucks, fuel trucks, or damaged vehicles transport those KIA and detainees ride in the cargo trucks, and are guarded by capable friendly wounded or other capable company personnel. All supply requests, human resources actions, and outgoing mail are consolidated for forwarding to the field trains, where the appropriate staff section processes them for the next LOGPAC. The company representative leads the LOGPAC back to the LRP, where he links up with the FSC, support platoon leader. Whenever possible, the reunited task force LOGPAC convoy returns to the field trains together. When METT-TC dictates or when the LOGPAC arrives too late to rejoin the larger convoy, the Infantry company vehicles must return to the field trains on their own. Because only minimal security assets are available, this situation should be avoided.
890. Who establishes the Infantry company's resupply point?
- a. As directed by the commander or executive officer, the first sergeant establishes the Infantry company's resupply point using the service station method or the tailgate method or in-position method. He briefs each LOGPAC driver on which method or methods to use. When the resupply point is ready, the first sergeant informs the commander, who in turn directs each platoon or element to conduct resupply based on the tactical situation. The platoon sergeant can resupply the squads the same way the first sergeant resupplies the platoons.
891. When is the tailgate method of resupply used?
- a. The first sergeant or platoon sergeant normally uses the tailgate method in the AA. (See figure 7-2.) Individual Soldiers rotate through the feeding area. While there, they pick up mail and sundries and refill or exchange water cans. They centralize and guard EPW. They take Soldiers KIA and their personal effects to the holding area (normally a location downwind and out of sight of the platoon/company), where the first sergeant assumes responsibility of them. Tailgate resupply usually requires significantly more time than do service station operations. Usually, units use the tailgate method only when the tactical situation allows or dictates. Combat vehicles remain in their vehicle positions or back out a short distance to allow trucks carrying Class III and Class V supplies to reach them. Individual crewmembers rotate through the feeding area, pick up mail and sundries, and fill or exchange water cans. Detainees are centralized and

guarded. Soldiers KIA and their personal effects are brought to the holding area, where the first sergeant takes charge of them.

892. When is in-position resupply used?
- a. In-position resupply is used during operations when contact with the enemy is imminent; the in-position resupply method (see figure 7-3) may be required to ensure adequate supplies are available to the squads. This method requires the company to bring forward supplies, equipment, or both to individual fighting positions. The platoon normally provides a guide to ensure the supplies are distributed to the most critical position first. This method:
  - b. Is used when an immediate need exists.
  - c. Is used to resupply single classes of supply.
  - d. Enables leaders to keep squad members in their fighting positions.
893. Occasionally (usually during combat operations), platoons have such an urgent need for resupply it cannot wait for a routine LOGPAC. How is resupply conducted in this situation?
- a. Emergency resupply may involve Classes III, V, and VIII, as well as CBRN equipment and, on rare occasions, Class I. The battalion usually uses the FSC's supply and transportation platoon, and medical assets located in the Infantry battalion combat trains to conduct emergency resupply of the element.
  - b. Emergency resupply can be conducted using either the service station or tailgate method although procedures may have to be adjusted when the platoon, squad and companies are in contact with the enemy. In the service station method, individual vehicles pull back during a lull in combat on order of the commander or platoon leader; they conduct resupply and return to the fight. With tailgate resupply, the Infantry company brings limited supplies forward to the closest concealed position behind each vehicle or element.
894. How is resupply conducted in defensive positions?
- a. In defensive operations, or other times as appropriate, the platoons will most likely need prestocked supplies, also known as pre-positioned or "cached" resupply. Normally, the platoon only pre-positions Class IV and V items, but they can pre-position Class III supplies. However, they must refuel platoon vehicles before they move into fighting positions, while first occupying the battle position, or while moving out of their fighting position to refuel.
  - b. All levels must carefully plan and execute prestock operations. All leaders, down to the squad leader level, must know the exact locations of prestock sites. They verify these locations during reconnaissance or rehearsals. The platoon takes steps to ensure the survivability of the prestock supplies. These measures include selecting covered and concealed positions and digging in the prestock positions. The platoon leader must have a removal and destruction plan to prevent the enemy from capturing prepositioned supplies.
  - c. During the offense, the company or platoon can preposition supplies on trucks well forward on the battlefield. This works well if the company or platoon expects to use a large volume of fire, with corresponding ammunition requirements. It allows the platoons to quickly resupply during consolidation or during lulls.

895. How is aerial sustainment conducted?
- Aerial sustainment is an aviation mission consisting of moving personnel, equipment, materiel, and supplies by utility, cargo, and fixed-wing assets for use in operations. Overland resupply might not work due to terrain, distance, or the existing enemy threat. The platoon must initiate a request for resupply and must push it through company to battalion. The platoon must prepare to receive the supplies at the specified time and location.
  - An aerial sustainment with speed balls is a technique with preconfigured loads to resupply Infantry platoons and squads in urban areas. Sustainment personnel prepackage supplies in aviation kit bags, duffle bags, or other suitable containers. Helicopters fly as close to the drop point as possible, reduce speed, drop supplies, and leave the area quickly. Supplies should be packaged in bubble wrap or other shock-absorbing material to minimize damage.
896. What are considerations for aerial resupply?
- When employing aerial delivery, the following should be considered:
  - The use of aerial delivery requires the coordination of the Infantry battalion staff, BCT S-3, S-4, and air defense airspace management/brigade aviation element sections. Special focus must be placed on the enemy air defense capability.
  - The FSC must be prepared to both receive and package bulk supplies by sling-load operations or joint precision airdrop system. To conduct these operations, sling load trained personnel are required in the FSC's distribution platoon.
  - Receiving unit must know how to select landing zone/drop zone to receive aerial resupply. The delivered supplies immediately are transported away from the landing zone/drop zone.
  - Units should return the sling or air delivery equipment to its owning unit.
897. What does planning for aerial resupply require?
- Planning for aerial resupply requires close coordination, with elements reviewing the entire mission and resolving all limitations and problem areas. If a resupply item poses a problem it cannot resolve, leaders should consider another mode of transport. Planning factors include the following:
  - Priorities of cargo/unit resupply.
  - Integration of the resupply operation into the tactical plan.
  - Selection, identification, and marking of the pickup zone or landing zone.
  - Type/amount of cargo.
  - Helicopter assets available.
  - Requirements for slings, cargo nets, and cargo containers.
  - Ground crew training requirements; such as those for ground guides and hookup personnel.
  - Pickup zone and landing zone security.
  - Flight routes.
898. What is extremely important for an aerial resupply?
- The selection of a usable pickup zone or landing zone is extremely important. The platoon leader or company commander analyzes logistical and tactical

considerations taking into account pickup zone or landing zone positioning is at the right place to support the ground unit. The area also must be accessible to the aircraft involved in the resupply operation. The air mission commander, the pilot in command, an aviation liaison officer (ALO), or a Pathfinder-qualified officer or NCO make the final decision on pickup zone or landing zone selection and acceptance.

- b. The Infantry platoon or squad receiving the supplies is responsible for preparing the pickup zone or landing zone. In addition to the general pickup zone and landing zone responsibilities, Soldiers in the platoon or company perform the following specific tasks for aerial resupply:
  - c. Recover and assemble equipment and supplies.
  - d. Train available ground crews in guiding the aircraft during approach, landing, unloading/loading, departure, and derigging the load.
  - e. Train hookup personnel.
  - f. Coordinate with the sending unit for control and return of the unit's transport equipment, such as slings and A-22 bags.
  - g. Prepare, coordinate, and inspect backloads (such as slings and A-22 bags) and have them ready for hookup or loading when the aircraft arrives.

899. What is maintenance?

- a. The maintenance of weapons and equipment is continuous. Every Soldier must know how to maintain his weapon and equipment according to the related technical manual. The platoon leader, platoon sergeant, and squad leaders must understand maintenance for every piece of equipment in the platoon.
- b. Maintenance includes inspecting, testing, servicing, repairing, requisitioning, recovering, and evacuating vehicles and equipment. Maintenance at the platoon and squad level comprises thorough preventive maintenance checks and services and accurate reporting of maintenance problems to the company.
- c. Maintenance and the early identification of problems prevent equipment down-time and the reduction of combat effectiveness. The result of good PMCS is a properly completed equipment inspection and maintenance forms. These forms (DA Form 2404 or DA Form 5988-E) are the primary means through which the platoon and squads obtain maintenance support or repair parts. The forms follow a pathway from crew level to the brigade support area and back. Per unit SOP, the company executive officer or 1SG supervises the flow of these critical maintenance documents and parts. The flow of reporting and repairing equipment includes the following:
  - d. The squad leaders or vehicle commanders collect the maintenance forms and send them via Force XXI Battle Command Brigade and Below or give them to the platoon sergeant, who consolidates the forms for the platoon.
  - e. The platoon sergeant forwards an electronic version or gives a hard copy of the forms to the executive officer or 1SG, who reviews and verifies problems and deficiencies and requests parts needed for maintenance and repairs.
  - f. The electronic versions of the forms are consolidated at company level and then transmitted to the battalion and its supporting combat repair team.

- g. During the next LOGPAC operation, the completed hard copy forms are returned to the combat repair team to document completion of the repair.
  - h. In the brigade support area, required repair parts are packaged for delivery during the next scheduled resupply or through emergency resupply means.
  - i. If the repair or installation of the part requires higher skills and equipment than the operator, a combat repair team is dispatched to assess the repair and to install the part on site.
  - j. The operator conducts initial maintenance, repair, and recovery actions on site. Once it is determined that the crew cannot repair or recover the vehicle or equipment, the platoon contacts the executive officer or 1SG. If additional assistance is needed, the combat repair team assesses the damaged or broken equipment and makes necessary repairs to return the piece of equipment to fully mission-capable or mission-capable status, if appropriate.
900. What determines when maintenance is performed?
- a. The unit SOP should detail when maintenance is performed, to what standards, and who inspects it. The squad leader is most often the one who inspects maintenance work, with the platoon sergeant and platoon leader conducting spot-checks. Besides operator maintenance, selected Soldiers are trained to perform limited maintenance on damaged weapons and battle damage assessment and repair.
901. Where is inoperative equipment to be fixed?
- a. Inoperative equipment is fixed as far forward as possible. When a piece of equipment is damaged, it should be inspected to see if it can be repaired on the spot. If equipment cannot be repaired forward, it is evacuated immediately or returned with a LOGPAC. Even if the item cannot be evacuated at once, the maintenance system is alerted to prepare for repair or replacement. If a replacement is available (from an evacuated Soldier or inoperative equipment), it is sent forward. If not, the leader must work around it by prioritizing remaining equipment. For example, using a squad radio for the company command net if the platoon radio is broken.
902. How is equipment reliability maintained?
- a. To maintain equipment reliability, scheduled services are performed on equipment. Equipment services are specified maintenance actions performed when required where equipment, components, and systems are routinely checked, adjusted, lubed, and so on, according to engineer specifications. Maintenance personnel use scheduled services to replace faulty items and avoid projected component failures based on analysis and engineering documentation.
903. What is field maintenance?
- a. Field maintenance is on-system maintenance, and mainly involves preventive maintenance and replacement of defective parts. The goal of field maintenance is to repair and return equipment to the Soldier. It covers tasks previously assigned to operator/crew, organization/unit, and direct support maintenance levels. It includes some off-system maintenance critical to mission readiness.

- b. Platoon leaders ensure vehicles (if equipped) crews and equipment operators perform PMCS. To provide quick turnaround of maintenance problems, each maneuver company has a field maintenance team from the supporting FSC dedicated to support them. These field maintenance teams have forward repair systems and mechanics trained in the company's and platoon's equipment.
904. What is sustainment maintenance?
- a. Sustainment maintenance consists of repairing components off the user's platform. To maximize unit combat readiness, maintenance personnel must repair and return the equipment to the user as quickly as possible. (See appendix E of this publication for more information.)
905. What is the definition of planning?
- a. Planning is the process by which the small-unit leader translates his visualization into a specific COA for preparation and execution, focusing on the expected results. Planning to determine the relationship among METT-TC begins with the analysis and assessment of the conditions in the operational environment, with particular emphasis on the enemy. It involves understanding and framing the problem and envisioning the set of conditions representing the desired end state. Based on the higher commander's guidance, the platoon leader's planning includes formulating one or more suitable COA to accomplish the mission. Planning continues as necessary during preparation and execution. The platoon leader relies on intuitive decisionmaking and direct contact with subordinate leaders to integrate activities when circumstances are not suited for TLP. A-2. Preparation consists of activities performed by units to improve their ability to execute an operation. Preparation includes, but is not limited to, plan refinement; rehearsals; information collection; coordination; inspections; and movement. A-3. Execution is putting a plan into action by applying combat power to accomplish the mission and using situational understanding to assess progress and make execution and adjustment decision.
906. What is assessment?
- a. Assessment refers to the continuous monitoring and evaluation of the current situation, particularly the enemy, and progress of an operation. Assessment precedes and guides every operations process activity and concludes each operation or phase of an operation. It involves a comparison of forecasted outcomes to actual events. Assessment entails three tasks:
    - b. Continuously assessing the enemy's reactions and vulnerabilities.
    - c. Continuously monitoring the situation and progress of the operation towards the leader's desired end state.
    - d. Evaluating the operation against measures of effectiveness and measures of performance.
907. When do leaders use TLP?
- a. Leaders use TLP when working alone or with a small group to solve tactical problems. For example, a platoon leader may use the platoon sergeant, squad leaders, and the forward observer to assist during TLP. The type, amount, and

timeliness of information passed from higher to lower directly impact the lower unit leader's TLP. (Refer to FM 6-0 for more information.)

908. When does parallel planning occur?
- Parallel planning occurs when two or more echelons plan the same operation at about the same time. Parallel planning is easiest when the higher unit continuously shares information on future operations with subordinate units. Rather than waiting until company commander finishes planning, the platoon leader starts to develop his unit's missions as information is received, and fleshes out his missions as more information becomes available.
  - The platoon leader starts by identifying his unit's missions, stating his intent, and ensuring his intent reflects the operational concepts of his higher and second higher command. He chooses the tasks most likely to be assigned to his unit, and develops mission statements based on the information received. At all levels, developing and describing the vision of leaders requires time, explanation, and ongoing clarification. All leaders understand that their next higher commander's concept of the operation continues to mature, and continue parallel planning as it does so, up until execution. Figure A-1 illustrates the parallel sequences of the MDMP of a battalion, TLP of a company with the TLP of its platoons.
909. When do the first three steps of TLP occur?
- Normally, the first three steps (receive the mission, issue a WARNORD, and make a tentative plan) of TLP occur in order. However, the sequence of subsequent steps is based on the situation. The tasks involved in some steps example, initiate movement and conduct reconnaissance may occur several times. The last step, supervise and refine, occurs throughout.
  - A tension exists between executing current operations and planning for future operations. The small unit leader must balance both. If engaged in a current operation, there is less time for TLP. If in a lull, transition, or an AA, leaders have more time to use TLP thoroughly. In some situations, time constraints or other factors may prevent leaders from performing each step of TLP as thoroughly as they would like. For example during the step, make a tentative plan; small-unit leaders often develop only one acceptable COA vice multiple COA. If time permits, leaders may develop, compare, and analyze several COA before arriving at a decision on which one to execute.
910. When does the PL begin TLP?
- The platoon leader begins TLP when he receives the initial WARNORD or receives a new mission. As each subsequent order arrives, he modifies his assessments, updates tentative plans, and continues to supervise and assess preparations. In some situations the platoon leader may not receive or issue the full sequence of WARNORDs; security considerations or tempo may make it impractical. Leaders carefully consider decisions to eliminate WARNORDs. Subordinates always need to have enough information to plan and prepare for their mission. In other cases, TLP are started before receiving a WARNORD

based on existing plans and orders (contingency plans or be-prepared missions) and on subordinate leader's understanding of the situation.

911. What does parallel planning hinge on?
- Parallel planning hinges on distributing information as it is received or developed. Subordinate leaders cannot complete their plans until they receive their unit mission. If each successive WARNORD contains enough information, the higher command's final order will confirm what subordinate leaders have already analyzed and put into their tentative plans. In other cases, the higher command's order may change or modify the subordinates' tasks enough additional planning and reconnaissance are required.
912. What are the benefits of TLP?
- TLP provide small-unit leaders a framework for planning and preparing for operations. TLP begin when the platoon leader receives the first indication of an upcoming mission and continues throughout the operational process (plan, prepare, execute, and assess). The TLP comprise a sequence of actions helping the leader use available time effectively and efficiently to issue orders and execute operations.
  - TLP are not a hard and fast set of rules. Some actions may be performed simultaneously or in an order different than shown in figure A-2 (page A-4). They are a guide being applied consistent with the situation and experience of the platoon leader and his subordinate leaders. The tasks involved in some actions (such as initiate movement, issue the WARNORD, and conduct reconnaissance) may recur several times during the process.
913. What occurs continuously throughout TLP and execution of the operation?
- The last action (activities associated with supervising and refining the plan) occurs continuously throughout TLP and execution of the operation. The following information concerning TLP assumes the small unit leader will plan in a time-constrained environment. All steps should be done, even if in abbreviated fashion. As such, the suggested techniques are oriented to help a leader quickly develop and issue a combat order. (Refer to FM 6-0 for more information.)
914. What occurs in step 1 of TLP?
- In Step 1 of TLP, leaders determine their units' missions and assess the time available to accomplish them. They can conduct an initial (light) analysis of the order using METT-TC. They conduct detailed METT-TC analyses only after they issue the first WARNORD (Step 2). Rarely will they receive their missions until after higher command issues the third WARNORDs or the OPORDs themselves. However, in the course of parallel planning, small-unit leaders already will have deduced their tentative missions.
915. How can leader receive a mission? What must leaders do upon receiving a mission?
- Leaders can receive their missions in several ways. They can get them in the form of WARNORDs or, if higher chooses to wait for more information, an actual OPORD. Sometimes higher chooses not to send WARNORDs, opting instead to wait and send a full OPORD. Worst case, leaders receive new missions due to

situational changes occurring during the execution of a prior mission. In addition to receiving (or deducing) their missions during this step, the leaders must also—

- b. Assess the time available to prepare for and execute the mission.
  - c. Prepare an initial timeline for planning and executing the mission.
  - d. Conduct an initial planning-time analysis.
  - e. Determine the total amount of time to plan and prepare.
  - f. As planning continues, use the initial planning-time analysis to conduct a detailed time analysis.
  - g. Analyze the time his unit has available.
  - h. Prepare an initial timeline.
916. What is the most important element of a WARNORD?
- a. The most important element of the leader's WARNORD is the initial timeline for planning. They also may convey other instructions or information they think will help their subordinates prepare for the upcoming mission.
917. What is a WARNORD?
- a. A-18. A WARNORD is a preliminary notice of an order or action to follow. (Refer to ADRP 1-02 for more information.) Though less detailed than a complete OPOD, a WARNORD aids in parallel planning. After the leaders receive new missions and assess the time available for planning, preparing, and executing the mission, they immediately issue WARNORDs to their subordinates. By issuing the initial WARNORDs as quickly as possible, they enable subordinates to begin their own planning and preparation (parallel planning) while they begin to develop the OPODs. When they obtain more information, they issue updated WARNORDs, giving subordinates as much as they know. A-19. Leaders can issue WARNORDs to their subordinates right after they receive higher command's initial WARNORDs. In their own initial WARNORDs, they include the same elements given in their higher headquarters' initial WARNORDs. If practical, leaders brief their subordinate leaders face-to-face, on the ground. Otherwise, they use a terrain model, sketch, or map. (See figure A-3, page A-6 for an example of a warning order format.)
918. What is the format of a WARNORD?
- a. The WARNORD follows the five-paragraph OPOD format and includes the
  - b. following items, at a minimum:
  - c. Type of operation.
  - d. General location of operation.
  - e. Initial operational timeline.
  - f. Reconnaissance to initiate.
  - g. Movement to initiate.
  - h. Planning and preparation instructions (to include planning timeline).
  - i. Information requirements.
  - j. Commander's critical information requirements.
919. How many COAs does the PL develop?
- a. In a time-constrained environment, a platoon leader typically develops only one COA.

- b. However, as time permits, he can develop as many COA, for comparison purposes, as time allows. He begins TLP Step 3 after he issues his own WARNORD, and after he has received company's third WARNORD, or until he has enough information to proceed. He need not wait for a complete OPORD before starting to develop his own tentative plan.
920. When does the PL begin mission analysis?
- a. The platoon leader begins mission analysis when receiving the mission. During mission analysis, the platoon leader—
  - b. Restates the mission.
  - c. Conducts an initial risk assessment.
  - d. Identifies a tentative decisive point.
  - e. Defines his own intent.
  - f. He conducts mission analysis to help him start developing his vision, and to confirm what he must do to accomplish his mission. At the lower levels, leaders conduct their mission analyses by evaluating METT-TC. He makes significant deductions about the terrain, enemy, and own forces affecting operations. These significant deductions drive the planning process and execution of operations. A leader must convey to his subordinates the importance of these deductions, and effect they will have on the units operations. In the end, the usefulness of mission analysis lies in recognizing and capitalizing on opportunities. The answers to the following questions become inputs into developing a COA. Mission analysis has no time standard. A leader may take as much time as needed, while still adhering to the one-third/two-thirds rule.
921. What questions does mission analysis seek to answer?
- a. Mission analysis answers the four questions of the leader's visualization:
  - b. What is my mission?
  - c. What is the current situation?
  - d. How do we accomplish the mission?
  - e. What are the risks?
922. Why is analyzing METT-TC a continuous process?
- a. Analyzing METT-TC is a continuous process. Leaders constantly receive information, from the time they begin planning through execution. During execution, their continuous analyses enable them to issue well-developed FRAGORDs. They must assess if the new information affects their missions and plans. If so, then they must decide how to adjust their plans to meet these new situations. They need not analyze METT-TC in a particular order. How and when they do so depends on when they receive information as well as on their experience and preferences. One technique is to parallel the TLP based on the products received from higher. Using this technique, they would, but need not, analyze mission first; followed by terrain and weather; enemy; troops and support available; time available; and finally civil considerations.
923. What is a mission?
- a. A mission is task and purpose clearly indicating the action to be taken and reason for the action. In common usage, especially when applied to lower military

units, a mission is a duty or task assigned to an individual or unit. The mission is always the first factor leaders consider and most basic question: What have I been told to do, and why?

- b. Leaders at every echelon must understand the mission, intent, and operational concept one and two levels higher. This understanding makes it possible to exercise disciplined initiative. Leaders capture their understanding of what their units are to accomplish in their revised mission statements. They take five steps to fully analyze their assigned mission as directed from —
    - c. Higher headquarters' (two levels up) mission, intent, and concept.
    - d. Immediate higher headquarters' (one level up) mission, intent, and concept.
    - e. Unit's purpose.
    - f. Constraints.
    - g. Specified, implied, and essential tasks.
    - h. Restated mission.
924. What concepts of operation do leaders seek to understand?
- a. Leaders understand their second higher up concepts of the operation. They identify the tasks and purposes, and how their immediate higher up are contributing to the fight. They also must understand leaders' intent (two levels up).
  - b. Leaders understand their immediate headquarters' concept of the operation. They identify their headquarters' tasks and purposes as well as their own contributions to this fight. They must clearly understand their immediate higher up intent from the OPORD. Also, they identify the tasks, purposes, and dispositions for all adjacent maneuver elements under headquarters' control.
925. Where do leader's find their unit's purposes?
- a. Leaders find their units' purposes in the concepts of the operation in the immediate higher headquarters' OPORDs. The operation's purpose usually matches or achieves the purpose of the immediate higher headquarters. Similarly, shaping operation purposes must relate directly to those of the decisive operation. Sustaining operation purposes relate directly to those of the decisive and shaping operations. Leaders must understand how their units' purposes relate to higher. They must understand why their leaders one level up assigned their unit's particular purposes. Then, they determine how those fit into their superior's concepts of the operation.
926. What are the purposes of mission constraints?
- a. Constraints either prohibit or require an action. Leaders identify all constraints the OPORD places on their units' ability to execute their missions. The two types of constraints are proscriptive (required; mandates action) and prohibitive (not allowed; limits action).
927. What are implied tasks?
- a. Implied Tasks. Implied tasks are those being performed to accomplish a specified task, but that are not stated in a higher headquarters' order. Implied tasks derive from a detailed analysis of higher up orders, from the enemy situation and COA, from the terrain, and from knowledge of doctrine and history. Analyzing the unit's

current location in relation to future area of operation as well as the doctrinal requirements for each specified task might reveal the implied tasks. Only those requiring resources should be used. For example, if the specified task is "Seize Objective Fox," and new intelligence has OBJ FOX surrounded by reinforcing obstacles, this intelligence would drive the implied task of "Breach reinforcing obstacles vicinity Objective Fox."

928. What are essential tasks?
- Essential Task. The essential task is the mission task it accomplishes the assigned purpose. It, along with the platoon's purpose, is usually assigned by the higher headquarters' OPORD in concept of the operation or Tasks to Maneuver Units. For decisive operations, since the purposes are the same (nested concept) the essential task also accomplishes the higher headquarters' purpose. For shaping operations, it accomplishes the assigned purpose, which shapes the decisive operation. For sustaining operations, it accomplishes the assigned purpose, which enables both the shaping and decisive operation (again, nested concept).
929. What are the 5 W's that leaders use to conclude their mission analyses?
- Leaders conclude their mission analyses by restating their missions. To do this, they answer the five Ws:
  - Who (the unit).
  - What (the unit's essential task and type of operation).
  - When (this is the time given in the company OPORD).
  - Where (the objective or location stated in company OPORD), and.
  - Why (the units purpose, taken from the companies concept of the operation).
930. What do leaders consider when analyzing terrain?
- When analyzing terrain, leaders consider manmade features and effects on natural terrain features and climate. Leaders also consider the effects of manmade and natural terrain in conjunction with the weather on friendly and enemy operations. In general, terrain and weather do not favor one side over the other unless one is better prepared to operate in the environment or is more familiar with it. The terrain, however, may favor defending or attacking. Analysis of terrain answers the question: What is the terrain's effect on the operation? Leaders analyze terrain using the categories of OAKOC.
931. What aspects are used to analyze the ground?
- Military aspects of terrain OAKOC are used to analyze the ground. The sequence can vary. The leader determines the effects of each aspect of terrain on both friendly and enemy forces. These effects translate directly into conclusions applying to friendly or enemy COA. Even if time is tight, the leader should allocate as much time as possible to factor, starting at the objective area, and analyzing other aspects of key terrain. Terrain and weather are the most important aspects. Conclusions include at least the following:
  - Template of enemy forces and essential weapon systems.
  - Positioning of own assets.

- d. Understanding of time and space relationships of events, leading to thorough contingency plans.
  - e. Echelonning and identifying of enemy observation and indirect fires.
  - f. Selecting of movement techniques and formations, to include when to transition to tactical maneuver.
932. What is an avenue of approach?
- a. An avenue of approach is an air or ground route of an attacking force leading to an objective or key terrain. Avenues of approach are classified by type (mounted, dismounted, air, or subterranean), formation, and speed of the largest unit traveling on it.
933. How are avenues of approach formed?
- a. The leader groups mutually supporting mobility corridors to form an avenue of approach. If he has no mutually supporting mobility corridors, then a single mobility corridor might become an avenue of approach. Avenues of approach are classified the same as mobility corridors. After identifying these avenues, the leader evaluates each and determines its importance.
934. What are offensive considerations the leader can include in his evaluation of avenues of approach?
- a. Offensive considerations the leader can include in his evaluation of avenues of approach:
  - b. How can I use each avenue of approach to support my movement and maneuver?
  - c. How will each avenue support movement techniques, formations and, once we make enemy contact, maneuver?
  - d. Will variations in trafficability force changes in formations or movement
  - e. techniques, or require clearance of restricted terrain?
  - f. What are the advantages and disadvantages of each avenue?
  - g. What are the enemy's likely counterattack routes?
  - h. What lateral routes could we use to shift to other axes, and which could the enemy use to threaten our flanks?
  - i. How will each avenue of approach affect the rate of movement of each type force?
935. What are defensive considerations the leader can include in his evaluation of avenues of approach?
- a. Defensive considerations the leader can include in his evaluation of avenues of approach:
  - b. What are all likely enemy avenues into my area of operations?
  - c. How can the enemy use each avenue of approach?
  - d. What lateral routes could the enemy use to threaten our flanks?
  - e. What avenues would support a friendly counterattack or repositioning of forces?
936. What is key terrain?
- a. Key terrain is locations or areas whose seizure, retention, or control gives a marked advantage to either combatant. It is a conclusion, usually arrived at after enemy analysis and COA development, rather than an observation. A prominent

hilltop overlooking an avenue of approach might or might not be key terrain. Even if it offers clear observation and fields of fire, it offers nothing if the enemy can easily bypass it, or if the selected course of action involves maneuver on a different avenue of approach. However, if it offers cover and concealment, observation, and good fields of fire on multiple avenues of approach, or on the only avenue of approach, then it offers a definite advantage to whoever controls it. The leader must assess what terrain is essential to mission accomplishment. Another example of essential terrain for a platoon and squad in the attack is high ground overlooking the enemy's reverse-slope defense. Controlling this area could prove critical in establishing a support-by-fire position to protect a breach force.

937. What is decisive terrain?
- a. Decisive terrain. Leaders also must determine if terrain is decisive. This is key terrain which seizure, retention, or control is necessary for mission accomplishment. Some situations have no decisive terrain. If a leader identifies terrain as decisive, this means he recognizes seizing or retaining it is necessary to accomplish the mission.
938. What are tactical considerations for analyzing key terrain?
- a. Tactical considerations in analyzing key terrain. Terrain is important for friendly observation, both for commanding and controlling and for calling for fire? What terrain is important to the enemy and why? Is it important to me? What terrain has higher headquarters named as key? Is this terrain also important to the enemy? Is the enemy controlling this key terrain? How do I gain or maintain control of key terrain? What terrain is essential for communications nodes dictating the employment of digital communications equipment? The leader identifies locations along each avenue of approach providing clear observation and fields of fire for both the attacker and defender. He analyzes the area surrounding key terrain, objectives, engagement area, and obstacles. He locates intervisibility lines (ridges or horizons which can hide equipment or personnel from observation). He assesses the ability of the attacking force to overwatch or support movement (with direct fire). An intervisibility line analysis enables the leader to visualize the profile view of terrain when only a topographic product (map) is provided.
939. What is considered while analyzing fields of fire?
- a. In analyzing fields of fire, he considers the friendly and enemy potential to cover avenues of approach and key terrain, in particular, with direct fires. He also identifies positions where artillery observers can call for indirect fire. The observer must observe both the impact and effects of indirect fires. He analyzes if vegetation will affect the employment or trajectory of the Javelin, or 60-mm mortars. It can do this by masking the target or by reducing overhead clearance. When possible, the observer conducts a ground reconnaissance from both enemy and friendly perspectives. He might do it personally, by map, or with his subordinate units, or he can use the assets and information provided by the

battalion reconnaissance platoon. This reconnaissance helps him to see the ground objectively and to see how it will affect both forces.

940. What are offensive considerations in analyzing observation and fields of fire?
  - a. Offensive considerations in analyzing observation and fields of fire include:
  - b. Are clear observation and fields of fire available on or near the objective for enemy observers and weapon systems?
  - c. Where can the enemy concentrate fires?
  - d. Where will the enemy be unable to concentrate fires?
  - e. Where is the enemy vulnerable?
  - f. Where can I support the movement of a friendly force with mortar, medium machine gun, or Javelin?
  - g. Where can friendly forces conduct support by fire or assault by fire?
  - h. Where are the natural target registration points?
  - i. Where do I position indirect fire observers?
941. What are defensive considerations in analyzing observation and fields of fire?
  - a. Defensive considerations in analyzing observation and fields of fire:
  - b. What locations have clear observation and fields of fire along enemy avenues of approach?
  - c. Where will the enemy establish firing lines or support-by-fire positions?
  - d. Where will I be unable to mass fires?
  - e. Where is the dead space in my area of operations? Where am I vulnerable?
  - f. Where are the natural target registration points?
  - g. Where can I destroy the enemy? Can I observe and fire on his location with at least two-thirds of my combat power?
  - h. How obvious are these positions to the enemy?
942. Where do leaders position indirect fire observers?
  - a. Leaders look at the terrain, foliage, structures, and other features along avenues of approach (and on objectives or key terrain) to identify sites offering cover (protection from the effects of direct and indirect fire) and concealment (protection from observation). In the defense, weapon positions must be both lethal to the enemy and survivable to the Soldier. Cover and concealment is just as vital as clear fields of fire. Cover and concealment can be either part of the environment or something brought in by the unit to create the desired effect. Both offensive and defensive considerations must be made:
943. Offensive considerations include:
  - a. What axes afford both clear fields of fire and cover and concealment?
  - b. Which terrain provides bounding elements with cover and concealment while
  - c. increasing lethality?
944. Defensive considerations include:
  - a. What locations afford cover and concealment as well as good observation and fields of fire?
  - b. How can friendly and enemy forces use the available cover and concealment?
  - c. What conclusions should be made from terrain analysis?
945. Terrain analysis should produce several specific conclusions. What are they?

- a. Battle, support by fire, and assault by fire positions.
  - b. Engagement areas and ambush sites.
  - c. Immediate and intermediate objectives.
  - d. Asset locations such as enemy command posts or ammunition caches.
  - e. Assembly areas.
  - f. Observation posts.
  - g. Artillery firing positions.
  - h. Air defense artillery system positions.
  - i. Reconnaissance, surveillance, and target-acquisition positions.
  - j. Forward area arming and refueling points.
  - k. Landing and drop zones.
  - l. Breach locations.
  - m. Infiltration lanes.
946. What are the five military aspects of weather?
- a. The five military aspects of weather are visibility; winds; precipitation; cloud cover; and temperature and humidity. Consideration of the weather's effects is an essential part of the leader's mission analysis. The leader goes past observing to application. He determines how the weather will affect the visibility, mobility, and survivability of his unit and that of the enemy. He reviews his commander's conclusions and identifies his own. He applies the results to the friendly and enemy COA he develops. The leader identifies critical conclusions about visibility factors such as light data, fog, and smog; and about battlefield obscurants such as smoke and dust. He considers light data and identifies critical conclusions about BMNT, sunrise, sunset, EENT, moonrise, moonset, and percentage of illumination.
947. What are additional visibility considerations?
- a. Some additional visibility considerations include:
  - b. Will the sun rise behind my attack or in my eyes?
  - c. Will I attack toward the sunrise?
  - d. How can I take advantage of the limited illumination?
  - e. How will this affect friendly and enemy target acquisition?
  - f. Will the current weather favor the use of smoke to obscure during breaching?
  - g. When are night vision devices effective?
  - h. Winds of sufficient speed can reduce the combat effectiveness of a force downwind as the result of blowing dust, obscurants, sand, or precipitation. The upwind force usually has better visibility. CBRN operations usually favor the upwind force. Windblown sand, dust, rain, or snow can reduce the effectiveness of radar and other communication systems. Strong winds also can hamper the efficiency of directional antenna systems by inducing antenna wobble. Strong winds and wind turbulence limit airborne, air assault, and aviation operations.
948. What information is needed for evaluation of weather?
- a. Evaluation of weather in support of these operations requires information on the wind at the surface as well as at varying altitudes. Near the ground, high winds increase turbulence and may inhibit maneuver. At greater altitudes, it can

increase or reduce fuel consumption. Wind always is described as "from...to" as in "winds are from the east moving to the west."

- b. The leader must answer these questions:
  - c. Will wind speed cause obscurants to dissipate quickly?
  - d. Will wind speed and direction favor enemy use of obscurants?
  - e. Will wind speed and direction affect the employment of available mortars?
  - f. What is the potential for chemical, biological, radiological and nuclear
  - g. contamination?
949. How does precipitation affect operations?
- a. Precipitation affects soil trafficability, visibility, and functioning of many electrooptical systems. Heavy precipitation can reduce the quality of supplies in storage. Heavy snow cover can reduce the efficiency of many communication systems as well as degrade the effects of many munitions and air operations. The leader identifies critical factors such as type, amount, and duration of precipitation. Some precipitation questions to answer include:
  - b. How will precipitation (or lack of it) affect the mobility of the unit or of enemy forces?
  - c. How can precipitation (or lack of it) add to the unit achieving surprise?
950. How does cloud cover impact ground operations?
- a. Cloud cover affects ground operations by limiting illumination and solar heating of targets. Heavy cloud cover can degrade many target acquisition systems, infrared guided munitions, and general aviation operations. Heavy cloud cover often canalizes aircraft within air avenues of approach and on the final approach to the target. Partial cloud cover can cause glare, a condition attacking aircraft might use to conceal their approach to the target. Some types of clouds reduce the effectiveness of radar systems. The leader identifies critical factors about cloud cover, including limits on illumination and solar heating of targets. Some cloud cover questions include?
  - b. How will cloud cover affect unit operations at night? How will it affect the enemy?
  - c. How will cloud cover affect the target acquisition of the command launch unit?
  - d. How will cloud cover affect helicopter and close air support?
951. How do temperature extremes and humidity impact operations?
- a. Extremes of temperature and humidity reduce personnel and equipment capabilities and may require the use of special shelter or equipment. Air density decreases as temperature and humidity increase. This can require reduced aircraft payloads.
  - b. Temperature crossovers, which occur when target and background temperatures are nearly equal, degrade thermal target acquisition systems. The length of crossover time depends on air temperature, soil and vegetation types, amount of cloud cover, and other factors.
952. The leader identifies critical factors about temperature, including high and low temperatures, infrared crossover times, and effects of obscurants and CBRN. Some temperature considerations include:
- a. How will temperature and humidity affect the unit's rate of march?

- b. How will temperature and humidity affect the Soldiers and equipment?
  - c. Will temperatures and humidity favor the use of nonpersistent chemical, biological, radiological and nuclear?
953. What is considered when analyzing enemy forces during mission planning?
- a. The second mission variable to consider is the enemy. Leaders analyze the enemy's dispositions, compositions, strengths, doctrine, equipment, capabilities, vulnerabilities, and probable COA. The line between enemy combatants and civilian noncombatants is sometimes unclear. This requires the leader to understand the laws of war, the ROE, and local situation.
954. What questions does analyzing the enemy answer
- a. Analyzing the enemy answers the question, "What is the enemy doing and why?" Leaders also answer—
  - b. What is the composition and strength of the enemy force?
  - c. What are the capabilities of his weapons? Other systems?
  - d. What is the location of current and probable enemy positions?
  - e. What is the enemy's most probable course of action? (DRAW-D [defends, reinforce, attack, withdraw, or delay]).
955. What must leaders understand about S2 assets when determining enemy COA?
- a. Leaders must understand assumption the battalion S-2 uses to portray the enemy's COA. Furthermore, their own assumptions about the enemy must be consistent with those of their higher commander. Leaders must continually improve their situational understanding of the enemy and update their enemy templates as new information or trends become available. Deviations or significant conclusions reached during their enemy analysis could positively or negatively affect the battalion's and company's plan should be shared immediately with the battalion, company commander and S-2. In analyzing the enemy, the leader must understand the IPB. Although he usually does not prepare IPB products for his subordinates, he must be able to use the products of the higher headquarters' IPB.
956. What must the leader understand about enemy force?
- a. Leaders must know more than just the number and types of vehicles, Soldiers, and weapons the enemy has. The leader must thoroughly understand when, where, and how the enemy prefers or tends to use his assets. A situation template is a visual illustration of how the enemy force might look and act without the effects of weather and terrain. The leader looks at specific enemy actions during a given operation and uses the appropriate situation template to gain insights into how the enemy may fight. Likewise, he must understand enemy doctrinal objectives. In doctrinal terms, he asks—"Is the enemy oriented on the terrain, example, a reconnaissance force, his own force (assault force, terrorists, or insurgent forces), civilian forces or critical infrastructure (terrorist or insurgent forces, sabotage), or other supporting or adjacent friendly forces (as in a disruption zone)? What effect will this have on the way the enemy fights?" However, as the global situation changes, the possibility of fighting threat who lack a structured doctrine increases. In such a situation, a leader must rely on

information provided by battalion or higher echelon R&S assets and, most importantly, his and his higher headquarters' pattern analysis and deductions about the enemy in his area of operation. He also may make sound assumptions about the enemy, human nature, and local culture.

957. What gives the leaders the opportunity to determine patterns in enemy employment or troops and equipment?
- Higher headquarters' information, he determines how the enemy is (or might be) arrayed. If the information is available, he determines the echelon force where the enemy originated. He determines the disposition of the next two higher enemy elements. From this analysis, he might be able to determine patterns in the enemy's employment or troops and equipment.
958. What does the leader determine enemy capabilities based on?
- Based on the S-2's assessment and enemy's doctrine and current location, the leader must determine the enemy's capabilities. This includes studying the maximum effective range for each weapon system, the doctrinal rates of march, and timelines associated with the performance of certain tasks. One technique is to use the warfighting functions as a checklist to address every significant element the enemy brings to the fight. The leader also determines the capabilities of the next higher enemy element. These capabilities should include reasonable assets the next higher element, or other higher enemy headquarters, may provide. This should include at least the employment of reserves, CBRN weapons, artillery or mortar locations and ranges, and reconnaissance assets.
959. Gaining complete understanding of the enemy's intentions can be difficult when his situation templates, composition, and disposition are unclear. What does this mean?
- Gaining complete understanding of the enemy's intentions can be difficult when his situation templates, composition, and disposition are unclear. In all cases, the enemy's recent activities must be understood, because they can provide insight into his future activities and intentions. If time permits, the leader might be able to conduct a pattern analysis of the enemy's actions to predict future actions. In the operational environment, this might be the most important analysis the leader conducts and is likely to yield the most useful information to the leader.
960. How do leaders determine how the enemy may fight?
- Identifies how the enemy may potentially fight; the leader weighs the result of his analysis of terrain and weather against the higher headquarters' situation template. The refined product is a platoon situation template, a graphic showing how he believes the enemy will fight under specific operational conditions. This situation template is portrayed one echelon lower than developed by the higher headquarters' S-2. For example, if a battalion situation template identifies a platoon-size enemy element on the company's objective and squad-size enemy elements on the platoon's objective, the leader, using his knowledge of both the enemy's doctrine and terrain, develops a situation template positioning squad-size battle positions, crew-served weapons positions, or defensive trenches.
961. What must the leader avoid when analyzing enemy forces?

- a. The leader must avoid developing his situation template independently of the higher commander's guidance and S-2's product. The product must reflect the results of reconnaissance and shared information. Differences between the situation templates must be resolved before the leader can continue analyzing the enemy. Finally, given the scale with which the leader often develops his situation template, on a 1:50,000 maps, the situation template should be transferred to a graphic depiction of terrain for briefing purposes, as the situation allows. This is not for analysis, but to show subordinates the details of the anticipated enemy COA. Once he briefs the enemy analysis to his subordinates, he must ensure they understand differences between what he knows, what he suspects, and what he just templates (estimates). Unless given the benefit of information collection, his situation template is only an estimate of how the enemy might be disposed. He must not take these as facts. This is why the leader must develop a tactically sound and flexible plan. It is also why he must clearly explain his intent to his subordinates. This allows them to exercise initiative and judgment to accomplish the unit's purpose. Reconnaissance is critical in developing the best possible enemy scenario.
962. What is the purpose of CCIRs?
- a. The CCIRs identify and filter information needed by leaders to support their vision and to make critical decisions, especially to determine or validate COA. CCIRs also helps focus the efforts of subordinates and aids in the allocation of resources. Commanders should limit their CCIRs to essential information. The two key elements are friendly forces information and priority intelligence requirements.
  - b. Priority intelligence requirements are information a leader needs to know about terrain or enemy to make a critical decision. PIR are best expressed in a question being answered yes or no.
  - c. Friendly forces information requirements include information leaders need to know about their units or about adjacent units to make critical decisions.
  - d. Although EEFIs are not part of the CCIRs, they still become priorities when the leader states them. EEFI are the critical aspects of a friendly operation if known by the enemy, that subsequently would compromise or lead to failure of the operation. Consequently, this information must be protected from identification by the enemy.
963. Why do leaders study their own task organization?
- a. Leaders study their task organization to determine the number, type, capabilities, and condition of available friendly troops and other support. Analysis of troops follows the same logic as analyzing the enemy by identifying capabilities, vulnerabilities and strengths. Leaders should know the disposition, composition, strength, and capabilities of their forces one and two levels down. This information can be maintained in a checkbookstyle matrix for use during COA development (specifically array forces). They maintain understanding of subordinates' readiness, including maintenance, training, strengths and weaknesses, leaders, and logistic status.

964. Analysis of troops and support answers what questions?
- What assets are available to accomplish the mission?
  - Leaders also answer these questions:
  - What are the strengths and weaknesses of subordinate leaders?
  - What is the supply status of ammunition, water, fuel (if required), and other
  - necessary items?
  - What is the present physical condition of Soldiers (morale, sleep)?
  - What is the condition of equipment?
  - What is the unit's training status and experience relative to the mission?
  - What additional Soldiers or units will accompany?
  - What additional assets are required to accomplish the mission?
965. What is one of the most critical aspects of mission analysis?
- Perhaps the most critical aspect of mission analysis is determining the combat potential of one's own force. The leader must realistically and unemotionally determine all available resources and new limitations based on level of training or recent fighting. This includes troops who are either attached to or in direct support of his unit. It also includes understanding the full array of assets in support of the unit. He must know, how much indirect fire, by type, is available and when it will become available.
966. What is another important question leaders need to ask when analyzing the enemy?
- Because of the uncertainty always present in operations at the small unit level, leaders cannot be expected to think of everything during their analysis. This fact forces leaders to determine how to get assistance when the situation exceeds their capabilities. Therefore, a secondary product of analysis of troops and support available should be an answer to the question, how do I get help?
967. What is the fifth mission variable of METT-TC?
- The fifth mission variable of METT-TC is time available. Time refers to many factors during the operations process (plan, prepare, execute, and assess). The four categories the leader considers include:
  - Planning and preparation.
  - Operations.
  - Next higher echelon's timeline.
  - Enemy timeline.
968. What do leaders consider at all phases of mission planning?
- During all phases, leaders consider critical times, unusable time, the time it takes to accomplish activities, the time it takes to move, priorities of work, and tempo of operations. Other critical conditions to consider include visibility and weather data, and events such as higher headquarters tasks and required rehearsals. Implied in the analysis of time is leader prioritization of events and sequencing of activities.
969. What is a critical aspect to planning, preparation, and executing of missions?
- As addressed in step 1 of the TLP, time analysis is a critical aspect to planning,
  - preparation, and execution. Time analysis is often the first thing a leader does. The leader must not only appreciate how much time is available, but he also

must be able to appreciate the time/space aspects of preparing, moving, fighting, and sustaining. He must be able to see his own tasks and enemy actions in relation to time. Most importantly, as events occur, he must adjust the time available to him and assess its impact on what he wants to

- c. accomplish. Finally, he must update previous timelines for his subordinates, listing all events affecting the platoon and its subordinate elements.
970. What are civil considerations for mission planning?
- a. Civil considerations include the influences of manmade infrastructure, civilian
  - b. institutions, and attitudes, activities of civilian leaders, populations, and organizations within an area of operation, with regard to the conduct of military operations. Civil considerations generally focus on the immediate impact of civilians on operations in progress. Civil considerations of the environment can either help or hinder friendly or enemy forces; the difference lies in which leader has taken time to learn the situation and its possible effects on the operation.
971. What questions does analysis of civil considerations seek to answer?
- a. Analysis of civil considerations answers three critical questions:
  - b. How do civilian considerations affect the operation?
  - c. How does the operation affect the civilians?
  - d. How do our forces build national will in our area of operations?
972. What does the leader need to understand about human populations within the AO?
- a. The population within a prescribed area of operation comprises several different groups, both ethnically and politically. Leaders must understand each group's perceptions about the United States, the Army, and specific units operating within that area. Population statuses overlays can best describe groups and define what feelings the group has toward American forces. This is extremely important in understanding when and where to commit combat power, what relationships can be reinforced with certain groups versus what relationships need to start or cease, and ultimately what second and third order effects our actions will have in the area of operation. Information related capabilities also can be properly focused with a healthy understanding of the perceptions of the civilian population. This characteristic addresses terrain analysis from a civilian perspective. Analyze how vital civilian areas affect the missions of respective forces and how military operations affect these areas. Factors to consider include political boundaries, locations of government centers, by-type enclaves, special regions such as mining or agricultural, trade routes, and possible settlement sites.
973. What are people?
- a. People is a general term describing all nonmilitary personnel military forces encountered in the area of operation. This includes those personnel outside the area of operation whose actions, opinions, or political influence can affect the mission. Identify the essential communicators and formal and informal processes used to influence people. In addition, consider how historical, cultural, and social factors shape public perceptions beliefs, goals, and expectations.
974. Where does COA analysis begin?

- a. COA analysis begins with both friendly and enemy COA and, using a method of action-reaction-counteraction war game, results in a synchronized friendly plan, identified strengths and weaknesses, and updated risk assessment. After developing the COA, the leader analyzes it to determine its strengths and weaknesses, visualizes the flow of the battle, identifies the conditions or requirements necessary to enhance synchronization, and gains insights into actions at the decisive point of the mission. If he has developed more than one COA, he applies this same analysis to each COA developed. He does this analysis through war gaming or "fighting" the COA against at least one enemy COA. For each COA, the leader thinks through the operation from start to finish. He compares their COA with the enemy's most probable COA. At small-unit level, the enemy's most probable COA is what the enemy is most likely to do. During the war game, the leader visualizes a set of enemy and friendly actions and reactions. War gaming is the process of determining "what if?" factors of the overall operations. The object is to determine what can go wrong and what decision the leader likely will have to make as a result. COA analysis allows the leader to synchronize his assets, identify potential hazards, and develop a better understanding of the upcoming operation. It enables him—
  - b. To determine how to maximize the effects of combat power while protecting friendly forces and minimizing collateral damage.
  - c. To anticipate events within the area of operations.
  - d. To determine conditions and resources required for success.
  - e. To identify additional control requirements.
  - f. To identify friendly coordination requirements.
975. What is the purpose of COA analysis?
- a. COA analysis (war gaming) brings together friendly and enemy forces on the actual terrain to visualize how the operation will unfold. It is a continuous cycle of action, reaction, and counteraction. This process highlights critical tasks, stimulates ideas, and provides insights rarely gained through mission analysis and COA development alone.
  - b. War gaming is a critical step in the planning process and should be allocated more time than the other steps. War gaming helps the leader fully synchronize friendly actions, while considering the likely reactions of the enemy. The product of this process is the synchronization matrix. War gaming, depending on how much time is devoted to planning, provides—
  - c.
  - d. An appreciation for time, space, and triggers needed to integrate direct and indirect fire support, obscurants, engineers, air defense artillery, and chemical, biological, radiological, nuclear with maneuver platoons (Infantry, antiarmor, or tank) to support unit tasks and purposes identified in the scheme of maneuver.
  - e. Flexibility built into the plan by gaining insights into possible branches to the basic plan.
  - f. The need for control measures, such as checkpoints, contact points, and target registration points, aid in control, flexibility, and synchronization.

- g. Coordinating instructions to enhance execution and unity of effort, and to ease confusion between subordinate elements.
  - h. Information needed to complete paragraphs three, four, and five of the OPORD.
  - i. Assessments regarding on-order and be-prepared missions.
  - j. Projected sustainment expenditures, friendly casualties, and resulting medical requirements.
976. How do units exploit the principles of speed and surprise?
- a. To exploit the principles of speed and surprise, leaders should weigh the advantages of reconnoitering personally against the combat multiplier in the form of supplied information from battalion information systems. They realistically consider the dangers of reconnoitering personally, and time required to conduct them. Leaders might be able to plan their operations using the unprecedented amount of combat information provided by the higher echelon information collection assets. However, if time permits, leaders should verify higher headquarters' intelligence by reconnoitering visually. They should seek to confirm the PIR supporting their tentative plans. These PIR usually consists of assumptions or critical facts about the enemy. This can include strength and location, especially at templated positions. It also can include information about the terrain. For example, verification of a tentative support-by-fire position can suppress the enemy, or an avenue of approach is useable.
977. Who should be included in reconnaissance efforts?
- a. If possible, leaders should include their subordinate leaders in their reconnaissance efforts. This allows the subordinates to see as much of the terrain and enemy as possible. The reconnaissance also helps subordinate leaders gain insight into the leaders' visions of the operation.
978. What actions might leader's recons include?
- a. The leaders' recons might include moving to or beyond the LD, reconnaissance of an area of operation, or walking from the forward edge of the battle area back to and through the platoon area of operation or battle position along likely enemy avenues of approach. If possible, leaders should select vantage points with the best possible view of the decisive point. In addition to the leaders' reconnaissance efforts, units can conduct additional reconnaissance operations. Examples include surveillance of an area by subordinate elements, patrols to determine enemy locations, and establishment of observation posts to gain additional information. Leaders also can incorporate Javelin CLUs as surveillance tools (day or night), based on an analysis of METT-TC.
979. What does the nature of reconnaissance depend on?
- a. The nature of the reconnaissance, including what it covers and how long it lasts, depends on the tactical situation and time available. The leader should use the results of the COA development process to identify information and security requirements of the unit's reconnaissance operations. The leader must include disseminating results and conclusions arrived from reconnaissance into his time analysis. He also must consider how to communicate changes in the COA to his

subordinates and how these changes affect his plans, actions of the subordinates, and other supporting elements.

980. How does a COA get incorporated into an OPORD?
- a. During this step, leaders expand their selected (or refined) COA into complete OPORD. They prepare overlays, refine the indirect fire list, complete sustainment and mission command requirements and, of course, update the tentative plan based on the latest reconnaissance or information. They prepare briefing sites and other briefing materials they might need to present the OPORD directly to their subordinates.
  - b. Using the five-paragraph OPORD format helps them to explain all aspects of the operation: terrain, enemy, higher and adjacent friendly units, unit mission, execution, support, and mission command. The format also serves as a checklist to ensure they cover all relevant details of the operation. It also gives subordinates a smooth flow of information from beginning to end.
981. What is the purpose of an OPORD?
- a. The OPORD precisely and concisely explains both the leader's intent and concept of how he envisions the unit accomplishing the mission. The order does not contain unnecessary information. The OPORD is delivered quickly and in a manner allowing subordinates to concentrate on understanding the leader's vision and not just copying what he says verbatim. The leader must prepare adequately and deliver the OPORD confidently and quickly to build and sustain confidence in his subordinates.
  - b. When issuing the OPORD, the leader must ensure his subordinates understand and share his vision of what must be done and when and how it must be done. They must understand how all the platoon elements work together to accomplish the mission. They also must understand how the platoon mission supports the intentions of the immediate higher commander. When the leader has finished issuing the order, subordinate leaders should leave with a clear understanding of what the leader expects their elements to do. The leader is responsible for ensuring his subordinates understand.
  - c. In many respects more importantly, the leader must issue the order in a manner instilling subordinates with confidence in the plan and a commitment to do their best to achieve the plan. Whenever possible, he must issue the order in person. He looks into the eyes of his subordinate leaders to ensure each one understands the mission and what the element must achieve.
  - d. Complete the order with a confirmation brief. At a minimum, each subordinate leader should be able to back brief the unit mission and intent, the immediate higher commander's intent, his own tasks and purpose, and time he will issue his unit's OPORD. Each subordinate should confirm he understands the commander's vision and how the mission is accomplished with respect to the decisive point. This confirmation brief provides an opportunity to highlight issues or concerns.
  - e. The five-paragraph OPORD format (see figure A-4, page A-34), helps the leader paint a picture of all aspects of the operation, from the terrain to the enemy, and

finally to the unit's own actions from higher to lower. The format helps him decide what relevant details he must include and in providing subordinates with a smooth flow of information from beginning to end. At the same time, the leader must ensure the order is not only clear and complete but also as brief as possible. If he has already addressed an item adequately in a previous WARNORD, he can simply state "No change," or provide necessary updates. The leader is free to brief the OPORD in the most effective manner to convey information to his subordinates.

982. What is the final step of TLP? Why is it important for mission success?
- This final step of the TLP is crucial. After issuing the OPORD, the leader and his subordinate leaders must ensure the required activities and tasks are completed in a timely manner prior to mission execution. Supervision is the primary responsibility of all leadership. Both officers and NCOs must check everything important for mission accomplishment. This includes, but is not limited to—
  - Conducting numerous back briefs on all aspects of the platoon and subordinate unit operations.
  - Ensuring the second in command in each element is prepared to execute in his leaders' absence.
  - Listening to subordinates' OPORD.
  - Observing rehearsals of subordinate units.
  - Checking load plans to ensure they are carrying only what is necessary for the mission or what the OPORD specified.
  - Checking the status and serviceability of weapons.
  - Checking on maintenance activities of subordinate units.
  - Ensuring local security is maintained.
983. What three tactical march techniques are employed during tactical road marches?
- Tactical road marches are employed using three tactical march techniques: open column, close column, and infiltration. Each of these techniques uses scheduled halts to control and sustain the road march. METT-TC requires adjustments in the standard distances between vehicles and dismounts.
  - During movement, elements within a column may encounter many different types of routes and obstacles simultaneously. Consequently, parts of the column may be moving at different speeds, which can produce an undesirable accordion-like effect. The movement order establishes the order of march, rate of march, interval or time gaps between units, column gap, and maximum catch-up speed. Unless the commander directs them not to do so for security reasons, march units report when they have crossed each control measure. Throughout the move, air and ground security are maintained.
984. What is fundamental to success in close combat?
- Suppressing or destroying the enemy with direct fires is fundamental to success in close combat. Direct fire is inherent in maneuver, as is close combat. Small-unit leaders of the Infantry platoon must plan to focus, distribute, and shift the overwhelming mass of the platoon's direct fire capability at critical locations and times to succeed in combat. Efficient and effective fire control means the

platoon acquires the enemy and masses the effects of direct fires to achieve decisive results in the close fight. This appendix covers: principles of direct fire control, fire control process, direct fire planning, and direct fire control.

985. What does fire control require?
- Fire control requires a unit to acquire the enemy and mass the effects of fires rapidly to achieve decisive results in the close fight. When planning and executing direct fires, the platoon leader and subordinate leaders must know how to apply several fundamental principles. The purpose of the principles of direct fire is not to restrict the actions of subordinates. Applied correctly, they help the platoon to accomplish its primary goal in direct fire engagements both to acquire first and shoot first. These principles give subordinates the freedom to act quickly upon acquisition of the enemy. This discussion focuses on the following principles:
  - Mass the effects of fire.
  - Destroy the greatest threat first.
  - Avoid target overkill.
  - Employ the best weapon for specific target.
  - Minimize friendly exposure and avoid fratricide.
  - Plan for limited visibility conditions.
  - Develop contingencies
986. How does the infantry platoon achieve decisive results?
- The Infantry platoon must mass its fires to achieve decisive results. Massing entails focusing fires at critical points and distributing the effects. Random application of fires is unlikely to have a decisive effect. For example, concentrating the platoon's fires at a single target may ensure its destruction or suppression; however, fire control technique probably will not achieve a decisive effect on the enemy formation or position.
987. What determines the order in which enemy forces are engaged?
- The order in which the platoon engages enemy forces is in direct relation to the danger they present. The threat posed by the enemy depends on his weapons, range, and positioning. Presented with multiple targets, a unit will, in almost all situations, initially concentrate fires to destroy the greatest threat first, and distribute fires over the remainder of the enemy force.
988. How is target overkill prevented?
- Use only the amount of fire required to achieve necessary effects. Target overkill wastes ammunition and ties up weapons better employed acquiring and engaging other targets. The idea of having every weapon engage a different target, however, must be tempered by the requirement to destroy the greatest threats first.
989. What increases the probability of rapid enemy destruction or suppression?
- Using the appropriate weapon increases the probability of rapid enemy destruction or suppression; at the same time, it saves ammunition. The platoon and squad have many weapons with which to engage the enemy. Target type, range, and exposure are vital factors in determining the weapon and ammunition

being employed, as are weapons and ammunition availability and desired targets effects. Additionally, a leader should consider individual crew capabilities when deciding on the employment of weapons. The platoon leader arrays his forces based on the terrain, enemy, and desired effects of fires. As an example, when he expects an enemy dismounted assault in restricted terrain, the platoon leader would employ his squads, taking advantage of their ability to best engage numerous fast-moving targets.

990. How do units increase survivability?

- a. Units increase their survivability by exposing themselves to the enemy only to the extent necessary to engage him. Natural or man-made defilade provides the best cover from lethal direct fire munitions. Infantry Soldiers minimize their exposure by constantly seeking available cover, attempting to engage the enemy from the flank, remaining dispersed, firing from multiple positions, and limiting engagement times.
- b. The platoon leader and subordinate leaders must be proactive in reducing the risk of fratricide, friendly fire and noncombatant casualties. They have several tools to assist them in this effort: identification training for combat vehicles and aircraft, the unit's weapons safety posture, the weapons control status, recognition markings, and a COP to include range cards, area of operation sketches, and rehearsals. Knowledge and employment of applicable ROE are the primary means of preventing noncombatant casualties.

991. At night, what enables the platoon to engage enemy forces at nearly the same ranges are applicable during the day?

- a. At night, limited visibility fire control equipment enables the platoon to engage enemy forces at nearly the same ranges are applicable during the day. Obscurants such as dense fog, heavy smoke, and blowing sand, however, can reduce the capabilities of thermal and infrared equipment. Leaders should develop contingency plans for such extreme limited visibility conditions. Although decreased acquisition capabilities have minimal effect on area fire, point target engagements likely will occur at decreased ranges. Typically, firing positions, whether offensive or defensive, must be adjusted closer to the area or point where the platoon leader intends to focus fires. Another alternative is the use of visual or infrared illumination when there is insufficient ambient light for passive light intensification devices.

992. What do leaders initially develop plans based on?

- a. Leaders initially develop plans based on their units' maximum capabilities; they make backup plans for implementation in the event of casualties or weapon damage or failure. While leaders cannot anticipate or plan for every situation, they should develop plans for what they view as the most probable occurrences. Building redundancy into these plans, such as having two systems observe the same area of operation, is an invaluable asset when the situation (and number of available systems) permits. Designating alternate sectors of fire provides a means of shifting fires if adjacent elements are knocked out of action.

993. How do leaders mass fires onto an enemy force?

- a. To bring direct fires against an enemy force, leaders must continuously apply the steps of the fire control process. At the heart of this process are two critical actions: rapid, accurate target acquisition and massing of fire to achieve decisive effects on the target. Target acquisition is the detection, identification, and location of a target in sufficient detail to permit the employment of weapons. Massing entails focusing fires at critical points and distributing the fires for optimum effect.
994. What are the steps behind the fire control process?
- a. The following discussion examines target acquisition and massing of fires using these basic steps of the fire control process:
  - b. Identify probable enemy locations and determine the enemy scheme of maneuver.
  - c. Determine where and how to mass fires.
  - d. Orient forces to speed target acquisition.
  - e. Shift fires to refocus or redistribute.
995. How do infantry units achieve decisive effects on enemy forces?
- a. To achieve decisive effects, friendly forces must mass their fires. (See figure B-2.) Massing requires the leader both to focus the fires of subordinate elements and to distribute the effects of the fires. Based on his mission analysis and his concept of the operation, the leader identifies points where he wants to, or must, focus the unit's fires. Most often, these are locations he has identified as probable enemy positions or points along likely avenues of approach where the unit can mass fires. Because subordinate elements may not initially be oriented on the point where the leader wants to mass fires, he may issue a fire command to focus the fires. At the same time, the leader must use direct fire control measures to distribute the fires of his elements, which now are focused on the same point.
996. What is crucial to engaging enemy with direct fires?
- a. To engage the enemy with direct fires, friendly forces must rapidly and accurately acquire enemy elements. (See figure B-3, page B-6.) Orienting friendly forces on probable enemy locations and on likely avenues of approach will speed target acquisition. Conversely, failure to orient subordinate elements will result in slower acquisition; this greatly increases the likelihood enemy forces will be able to engage first. The clock direction orientation method, which is prescribed in most unit SOPs, is good for achieving all-around security; however, it does not ensure friendly forces are most oriented to detect the enemy. To achieve this critical orientation, the leader typically designates TRP on or near probable enemy locations and avenues of approach; he orients his subordinate elements using directions of fire or sectors of fire. Normally, the gunners on crew-served weapons scan the designated direction, sector, or area while other crewmembers observe alternate sectors or areas to provide all-around security.
997. A variety of situations will dictate shifting of fires. What are some examples?
- a. As the engagement proceeds, leaders must shift fires to refocus and redistribute the effects based on their evolving mission analysis. Situational awareness

becomes an essential part of the fire control process at this point. Leaders apply the same techniques and considerations, including fire control measures they used earlier to focus and distribute fires. A variety of situations will dictate shifting of fires, including the following:

- b. Appearance of an enemy force posing a greater threat than the one currently being engaged.
- c. Extensive attrition of the enemy force being engaged, creating the possibility of target overkill.
- d. Attrition of friendly elements engaging the enemy force.
- e. Change in the ammunition status of the friendly elements engaging the enemy force.
- f. Maneuver of enemy or friendly forces resulting in terrain masking.
- g. Increased fratricide and friendly fire risk as a maneuvering friendly element closes with the enemy force being engaged.

998. Who plans direct fires?

- a. The platoon leader plans direct fires as part of the TLP. Determining where and how the platoon can and will mass fires is an essential step as the platoon leader develops his concept of the operation.
- b. Leaders plan direct fires in order to be able to distribute and control their fire.
- c. Determining where and how leaders can mass fires is an essential step in this process.
- d. Based on where and how they want to focus and distribute fires, leaders can
- e. establish the weapons ready postures of their elements as well as triggers for initiating fires. During mission preparation, leaders plan and conduct rehearsals of direct fires (and of the fire control process) based on METT-TC.
- f. The platoon leader plans direct fires in conjunction with development of his mission analysis and completion of the plan. Determining where and how the platoon can and will mass fires are also essential steps as the platoon leader develops his concept of the operation.
- g. The platoon leader plans direct fires in conjunction with development of his mission analysis and completion of the plan. Determining where and how the platoon can and will mass fires are also essential steps as the platoon leader develops his concept of the operation.
- h. After identifying probable enemy locations, the platoon leader determines points or areas where he can focus combat power. His visualization of where and how the enemy will attack or defend assists him in determining the volume of fires he must focus at particular points to have a decisive effect. In addition, if he intends to mass the fires of more than one subordinate element, the platoon leader must establish the means for distributing fires.
- i. Based on where and how they want to focus and distribute fires, the platoon leader and subordinate leaders can then establish the weapons ready postures for platoon elements as well as triggers for initiating fires. Additionally, they must evaluate the risk of fratricide, friendly fire and establish controls to prevent it;

these measures include the designation of recognition markings, weapons control status, and weapons safety posture.

- j. After determining where and how they will mass and distribute fires, the platoon leader and subordinate leaders then must orient elements so they can rapidly and accurately acquire the enemy. They also can war-game the selected COA or concept of the operation to determine probable requirements for refocusing and redistributing fires and to establish
  - k. other required controls. Also during mission preparation, the platoon leader plans and conducts rehearsals of direct fires (and of the fire control process) based on his mission analysis.
  - l. The platoon leader and his subordinate leaders must continue to apply planning procedures and considerations throughout execution. They must be able to adjust direct fires based on a continuously updated mission analysis, combining situational awareness with the latest available intelligence. When necessary, they also must apply direct fire SOPs, which are covered in the following discussion.
999. What is a common means of employing fires?
- a. TRP are a common means of focusing fires. One technique is to establish a standard respective position for TRP in relation to friendly elements and to consistently number the TRP, such as from left to right. This allows leaders to quickly determine and communicate the location of the TRP.
1000. What are two useful means of distributing platoon fires?
- a. Two useful means of distributing the platoon's fires are engagement priorities and target array. One technique is to assign an engagement priority, by type of enemy vehicle or weapon, for each type of friendly weapons system. The target array technique can assist in distribution by assigning specific friendly elements to engage enemy elements of approximately similar capabilities.
1001. What is a TRP?
- a. A TRP is a recognizable point on the ground leaders use to orient friendly forces, and to focus and control direct fires. In addition, when leaders designate TRP as indirect fire targets, they can use the TRP when calling for and adjusting indirect fires. Leaders designate TRP at probable enemy locations and along likely avenues of approach. These points can be natural or man-made. A TRP can be an established site. For example, a hill or a building, or an impromptu feature such as a burning enemy vehicle or obscurants generated by an artillery round can be designated as a TRP. Friendly units also can construct markers to serve as TRP. (See figure B-4.) Ideally, TRP should be visible in three observation modes (unaided, passive-infrared, and thermal) so all forces can see them.
1002. Examples of TRP include what features and objects?
- a. Prominent hill mass.
  - b. Distinctive building.
  - c. Observable enemy position.
  - d. Destroyed vehicle.
  - e. Ground-burst illumination.
  - f. Obscurants round for immediate engagements only; this is the least preferred

- g. method.
- 1003. What is an Engagement Area?
  - a. This fire control measure is an area along an enemy avenue of approach where the leader intends to mass the fires of available weapons to destroy an enemy force. The size and shape of the engagement area is determined by the degree of relatively unobstructed intervisibility available to the unit's weapons systems in their firing positions and by the maximum range of those weapons. Typically, the platoon leader delineates responsibility within the engagement area by assigning each squad a sector of fire or direction of fire.
- 1004. What is a sector of fire? Why are sectors of fire used?
  - a. A sector of fire is a defined area being covered by direct fire. Leaders assign sectors of fire to subordinate elements, crew-served weapons, and individual Soldiers to ensure coverage of sectors; they also may limit the sector of fire of an element or weapon to prevent accidental engagement of an adjacent unit. In assigning sectors of fire, platoon leader and subordinate leaders consider the number and types of weapons available. In addition, they must consider acquisition system type and field of view in determining the width of a sector of fire. For example, while unaided vision has a wide field of view, its ability to detect and identify targets at range and in limited visibility conditions is restricted. Conversely, most fire control acquisitions systems have greater detection and identification ranges than the unaided eye, but their field of view is narrow.
- 1005. What are means of designating sectors of fire?
  - a. Target registration points.
  - b. Clock direction.
  - c. Terrain-based quadrants.
  - d. Friendly-based quadrants.
  - e. Azimuth or cardinal direction.
- 1006. What is a direction of fire?
  - a. A direction of fire is an orientation or point used to assign responsibility for a
  - b. particular area on the battlefield being covered by direct fire. Leaders designate directions of fire for purposes of acquisition or engagement by subordinate elements, crew-served weapons, or individual Soldiers. Direction of fire is most commonly employed when assigning sectors of fire would be difficult or impossible because of limited time or insufficient reference points.
- 1007. What are means of designating a direction of fire?
  - a. Closest target registration point.
  - b. Clock direction.
  - c. Azimuth or cardinal direction.
  - d. Tracer on target.
  - e. Infrared laser pointer.
  - f. M203 smoke round.
- 1008. What are quadrants?
  - a. Quadrants are subdivisions of an area created by superimposing an imaginary pair of perpendicular axes over the terrain to create four separate areas or

sectors. Establish quadrants on the terrain, friendly forces, or on the enemy formation. The method of quadrant numbering is established in the unit SOP; however, care must be taken to avoid confusion when quadrants based on terrain, friendly forces, and enemy formations are used simultaneously

1009. What is a weapons safety posture?

- a. Weapons safety posture is an ammunition handling instruction enabling the platoon leader to control the safety of his unit's weapons precisely. Leaders' supervision of the weapons safety posture, as well as Soldiers' adherence to it, minimizes the risk of accidental discharge and fratricide and friendly fire. Table B-2 outlines procedures and considerations for the platoon when using the four weapons safety postures, listed in ascending order of restrictiveness:
- b. AMMUNITION LOADED.
- c. AMMUNITION LOCKED.
- d. AMMUNITION PREPARED.
- e. WEAPONS CLEARED.

1010. What are the three weapon control statuses?

- a. The three levels of weapons control status outline the conditions, based on target identification criteria, under which friendly elements can engage. The platoon leader sets and adjusts the weapons control status based on friendly and enemy disposition, and clarity of the situation. Generally speaking, the higher the probability of fratricide and friendly fire, the more restrictive the weapons control status.

1011. The three levels, in descending order of restrictiveness, are—

- a. WEAPONS HOLD. Engage only if engaged or ordered to engage.
- b. WEAPONS TIGHT. Engage only targets positively identified as enemy.
- c. WEAPONS FREE. Engage targets not positively identified as friendly.

1012. What are the purposes behind engagement priorities?

- a. Engagement priorities, which entail the sequential ordering of targets to be engaged, can serve one or more of the following critical fire control functions:
- b. Prioritize high-payoff targets. In concert with his concept of the operation, the
- c. platoon leader determines which target types provide the greatest payoff; he then can set these as a unit engagement priority. For example, he may decide destroying enemy engineer assets is the best way to prevent the enemy from reducing an obstacle.
- d. Employ the best weapons to the target. Establishing engagement priorities for
- e. specific friendly systems increases the effectiveness with which the unit employs its weapons. For example, the engagement priority of the Javelin could be enemy tanks first, then enemy personnel carriers; this would decrease the chance the platoon's lighter systems will have to engage enemy armored vehicles.
- f. Distribute the unit's fires. Establishing different priorities for similar friendly
- g. systems helps to prevent overkill and achieve distribution of fires. For example, the platoon leader may designate the enemy's tanks as the initial priority for the weapons squad, while making the enemy's personnel carriers the priority for one of his rifle squads. This would decrease the chances of units launching multiple

tube launched, optically tracked, wire guided missiles (TOW) against two enemy tanks, while ignoring the dangers posed by the personnel carriers.

1013. What are engagement techniques?
- a. Engagement techniques are effects-oriented fire distribution measures.
1014. The following engagement techniques are common in platoon operations:
- a. Point fire.
  - b. Area fire.
  - c. Simultaneous.
  - d. Alternating fire.
  - e. Observed fire.
  - f. Sequential fire.
  - g. Time of suppression.
  - h. Reconnaissance by fire.
1015. What is point fire?
- a. Entails concentrating the effects of a unit's fire against a specific, identified target such as a vehicle, machine gun bunker, or ATGM position. When leaders direct point fire, all of the unit's weapons engage the target, firing until it is destroyed or the required time of suppression has expired. Employing converging fires from dispersed positions makes point fire more effective because the target is engaged from multiple directions. The unit may initiate an engagement using point fire against the most dangerous threat, and revert to area fire against other, less threatening point targets.
1016. What is Area Fire?
- a. Involves distributing the effects of a unit's fire over an area in which enemy positions are numerous or are not obvious. If the area is large, leaders assign sectors of fire to subordinate elements using a terrain-based distribution method such as the quadrant technique. Typically, the primary purpose of the area fire is suppression; however, sustaining suppression requires judicious control of the rate of fire.
1017. What is Simultaneous Fire?
- a. To rapidly mass the effects of their fires or to gain fire superiority. For example, a unit may initiate a support-by-fire operation with simultaneous fire, then, revert to alternating or sequential fire to maintain suppression. Simultaneous fire also is employed to negate the low probability of the hit and kill of certain antiarmor weapons. For example, a rifle squad may employ simultaneous fire with its M136 AT4 series to ensure rapid destruction of an enemy armored fighting vehicle engaging a friendly position.
1018. What is Alternating Fire?
- a. Pairs of elements continuously engage the same point or area target one at a time. For example, an Infantry company may alternate fires of two platoons; an Infantry platoon may alternate the fires of its squads; or an Infantry platoon may alternate the fires of a pair of medium machine guns. Alternating fire permits the unit to maintain suppression for a longer duration than does volley fire; it also forces the enemy to acquire and engage alternating points of fire.

1019. What is Observed Fire?
- Usually is used when the platoon is in protected defensive positions with engagement ranges in excess of 2500 meters for stabilized systems and 1500 meters for unstabilized systems. It can be employed between elements of the platoon, such as the squad lasing and observing while the weapons squad engages. The platoon leader directs one squad to engage. The remaining squads observe fires and prepare to engage on order in case the engaging element consistently misses its targets, experiences a malfunction, or runs low on ammunition. Observed fire allows for mutual observation and assistance while protecting the location of the observing elements.
1020. What is Sequential Fire?
- Entails the subordinate elements of a unit engaging the same point or area target one after another in an arranged sequence. Sequential fire also can help to prevent the waste of ammunition, as when a platoon waits to see the effects of the first Javelin before firing another. Additionally, sequential fire permits elements already have fired to pass on information they have learned from the engagement. An example would be a Soldier who missed an enemy armored fighting vehicle with M136 AT4 series fires passing range and lead information to the next Soldier preparing to engage the enemy armored fighting vehicle with an M136 AT4 series.
1021. What is Time of Suppression?
- Is the period, specified by the platoon leader, during which an enemy position or force is required to be suppressed. Suppression time is typically dependent on the time it will take a supported element to maneuver. Usually, a unit suppresses an enemy position using the sustained rate of fire of its automatic weapons. In planning for sustained suppression, a leader must consider several factors: the estimated time of suppression, the size of the area being suppressed, the type of enemy force to be suppressed, range to the target, rates of fire, and available ammunition quantities.
1022. What is Reconnaissance by Fire? Is the process of engaging possible enemy locations to elicit a tactical response, such as return fire or movement?
- This response permits the platoon leader and subordinate leaders to make target acquisition and to mass fires against the enemy element. Typically, the platoon leader directs a subordinate element to conduct the reconnaissance by fire. For example, he may direct an overwatching squad to conduct the reconnaissance by fire against a probable enemy position before initiating movement by a bounding element.
1023. What are fire patterns?
- Fire patterns are a threat-based measure designed to distribute the fires of a unit simultaneously among multiple, similar targets. Platoons use those most often to distribute fires across an enemy formation. Leaders designate and adjust fire patterns based on terrain and anticipated enemy formation.
1024. What are the basic fire patterns?
- Frontal fires.

- b. Cross fires.
  - c. Depth fires.
1025. When may leaders initiate frontal fire?
- a. Leaders may initiate frontal fire when targets are arrayed in front of the unit in a lateral configuration. Weapons systems engage targets to their respective fronts. For example, the left flank weapon engages the left-most target; the right flank weapon engages the right-most target. As weapons systems destroy targets, weapons shift fires toward the center of the enemy formation from near too far.
1026. When may leaders initiate cross fire?
- a. Leaders initiate cross fire when targets are arrayed laterally across the unit's front in a manner permitting diagonal fires at the enemy's flank, or when obstructions prevent unit weapons from firing frontally. Right flank weapons engage the left-most targets; left flank weapons engage the right-most targets. Firing diagonally across an engagement area provides more flank shots, thus increasing the chance of kills; it also reduces the possibility of the enemy detecting friendly elements should the enemy continue to move forward. As friendly elements destroy targets, weapons shift fires toward the center of the enemy formation.
1027. When do leaders initiate depth fire?
- a. Leaders initiate depth fire when enemy targets disperse in-depth, perpendicular to the unit. Center weapons engage the closest targets; flank weapons engage deeper targets. As the unit destroys targets, weapons shift fires toward the center of the enemy formation.
1028. What is the purpose of a target array?
- a. Target array enables the leader to distribute fires when the enemy force is concentrated and terrain-based controls are inadequate. Forces create this threat-based distribution measure by superimposing a quadrant pattern on the enemy formation. Soldiers center the pattern the enemy formation, with the axes running parallel and perpendicular to the enemy's direction of travel. The target array fire control measure is effective against an enemy with a well-structured organization and standardized doctrine. However, it may prove less effective against an enemy presenting few organized formations, or does not follow strict prescribed tactics. Leaders describe quadrants using the quadrants' relative locations. The examples in figure B-8 illustrate the target array technique.
1029. What are fire commands?
- a. Fire commands are oral orders issued by leaders to focus and distribute fires as required achieving decisive effects against the enemy. They allow leaders to rapidly and concisely articulate their firing instructions using a standard format (Refer to TC 3-20.31-4 for more information).
1030. Unit fire commands include these elements, which are discussed in the following paragraphs:
- a. Alert.
  - b. Weapon or ammunition (optional).
  - c. Target description.

- d. Direction.
- e. Range (optional).
- f. Method
- g. Control (optional).
- h. Execution.
- i. Termination

1031. What is a range card?

- a. A range card (DA Form 5517, Standard Range Card) is a sketch of the assigned
- b. area for a direct fire weapon system on a given sector of fire. (Refer to TC 3-21.75 for more information.) A range card aids in planning and controlling fires and aids the crews and squad gunners in acquiring targets during limited visibility. Range cards show possible target areas and terrain features plotted with a firing position. The process of walking and sketching the terrain to create a range card allows the individual Soldier or gunner to become more familiar with his area of operation. He should continually assess the area and, if necessary, update his range card. The range card is an aid for replacement personnel or platoons or squads to move into the position and orient on their area of operation. The individual Soldier or BFV gunner should make the range card so that he becomes more familiar with the terrain in his area of operation.

1032. To prepare a range card, the individual Soldier or BFV gunner must know what information?

- a. Sectors of fire. A sector of fire is a piece of the battlefield for which a gunner is responsible.
- b. Target reference points. Leaders designate natural or man-made features as
- c. reference points. A Soldier uses these reference points for target acquisition and range determination.
- d. Dead space. Dead space is an area that cannot be observed or covered by direct fire systems within the sector of fire.
- e. Maximum engagement line. The maximum engagement line is the depth of the
- f. area and is normally limited to the maximum effective engagement range of the weapons systems.
- g. Weapons reference point. The weapons reference point is an easily recognizable terrain feature on the map used to assist leaders in plotting the vehicle, squad, or weapon position.

1033. Who is responsible for the preparation of range cards?

- a. Individual Soldiers in squads and BFV gunners prepare range cards. Squad and platoon leaders prepare sector sketches. Section leaders may have to prepare sector sketches if they are assigned separate positions. The platoon leader reviews his squad's, and if applicable section's, sector sketches and ensures the sketches are accurate and meet his requirements. If he finds gaps or other flaws, the platoon leader adjusts weapons locations within the area of operation. Once the platoon leader approves the squad and section sector sketches, he prepares a consolidated report for the company team commander and incorporates this into a consolidated platoon sector sketch. The platoon leader or platoon sergeant

physically prepares the platoon sector sketch. The sector sketch can be on acetate taped to a map or it can be a hand drawn sketch. Accurate and detailed sketches aid in direct fire planning, and in direct fire control and distribution.

1034. Who makes copies of range cards?
- The squad leaders and section leaders make two copies of their sector sketches; one copy goes to the platoon leader, the other remains at the position. The squad leaders and section leaders draw sector sketches (see figure B-10, page B-30) as close to scale as possible, showing—
  - Main terrain features in the area of operation and the range to each.
  - Each primary position.
  - Engagement area or primary and secondary sectors of fire covering each position.
  - M240B machine gun final protective line or principle direction of fire.
  - M249 SAW final protective lines or principle direction of fires.
  - Type of weapon in each position.
  - Reference points and TRPs in the area of operation.
  - Observation post locations.
  - Dead space.
  - Obstacles.
  - Maximum engagement lines for all BFV weapon systems.
  - Maximum engagement lines for Javelin (if applicable) and AT4s.
  - Indirect fire targets.
1035. What does the PL do with the copies of sector sketches?
- Squad leaders and section leaders prepare their sketches and submit them to the platoon leader. The platoon leader combines all sector sketches (and possibly separate range cards) to prepare a platoon sector sketch, which is drawn as close to scale as possible and includes a target list for direct and indirect fires. One copy is submitted to the company team commander, one copy is given to the platoon sergeant (controlling the mounted element), and one copy is given to the leader of the dismounted element (usually the platoon leader).
1036. As a minimum, what should the platoon sector sketch should show?
- Primary and secondary sectors of fire or engagement areas.
  - Primary, alternate, and supplementary BFV and squad positions.
  - Remount points.
  - Javelin, M240B, and M249 positions with primary directions of fire.
  - M240B and M249 final protective lines or principle direction of fires.
  - Maximum engagement lines for 25-mm, M240C, and TOW.
  - Observation posts.
  - TRPs.
  - Mines and other obstacles.
  - Indirect fire target locations and final protective fire location (if applicable).
  - Position and area of flanking unit vehicles.
  - Priority engagement by weapon system and crew.
1037. Why do elements coordinate with one another?

- a. Platoon leaders coordinate with adjacent platoons. Squad leaders coordinate with adjacent squads so that all positions and all platoon and squads are mutually supporting. The platoon leader must ensure that this coordination take place. Coordination is usually initiated from left to right. Gaps between positions are covered by fire as a minimum. Contact points are established to ensure friendly forces meet at some specific point on the ground to tie in their flanks. In many cases, the exchange of sector sketches will accomplish most of this.
  - b. Typical information that is exchanged includes—
  - c. Locations of primary, alternate, and supplementary positions; sectors of fire for BFVs, M240Bs, and Javelins.
  - d. Location of dead space between platoons and how it is to be covered.
  - e. Location of observation posts.
  - f. Location and types of obstacles and how to cover them.
  - g. Patrols (size, type, time of departure and return, and routes).
1038. What actions are taken when a convoy reacts to an ambush?
- a. In almost all situations, the unit will take several specific, instantaneous actions
  - b. when it reacts to an ambush. (See figures D-12 and D-13, page D-32.) However, if the convoy is moving fuel and other logistics, the best method might be to suppress the enemy, continue to move and report. These steps, illustrated in figure D-12 (page D-32) include the following:
  - c. As soon as they encounter an enemy force, the escort vehicles take action toward the enemy. They seek covered positions between the convoy and enemy; suppress the enemy with the highest volume of fire permitted by the ROE. Contact reports are submitted to higher headquarters as quickly as possible.
  - d. The convoy commander retains control of the convoy vehicles and continues to move them along the route at the highest possible speed.
  - e. Convoy vehicles, if armed, may return fire only if the escort has not positioned itself between the convoy and the enemy force.
  - f. Leaders may request damaged or disabled vehicles be abandoned and pushed off the route.
  - g. The escort leader uses SPOTREP to keep the convoy security commander informed. If necessary, the escort leader or the convoy commander requests support from the reaction force and or calls for and adjusts indirect fires.
1039. What are some COAs the convoy takes once clear of the kill zone?
- a. Once the convoy is clear of the kill zone, the escort element executes one of the following COA:
  - b. Continues to suppress the enemy as combat reaction forces move to support.
  - c. Uses the Infantry to assault the enemy. (See figure D-15, page D-34.)
  - d. Breaks contact and moves out of the kill zone.
  - e. Request immediate air support to cut off escape routes.
1040. How do obstacles impact convoys? How can recon lower the impact the obstacles?
- a. Obstacles are a major impediment to convoys. The purpose of reconnaissance ahead of a convoy is to identify obstacles and either breach or bypasses. In

some cases the enemy or its obstacles may avoid detection by the reconnaissance element.

- b. Obstacles can be used to harass the convoy by delaying it. If the terrain is favorable, the obstacle may stop the convoy altogether. Obstacles also may be used to canalize the convoy to set up an enemy ambush. When an obstacle is identified, the convoy escort faces two problems: reducing or bypassing the obstacle, and maintaining protection of the convoy. Security becomes critical, and actions at the obstacle must be accomplished quickly. The convoy commander must assume the enemy is covering the obstacle with
  - c. direct- and indirect-fire weapons systems.
    - i. To reduce time the convoy is halted and to reduce its vulnerability, the following actions should occur when the convoy escort encounters a point-type obstacle:
  - d. The lead element identifies the obstacle and directs the convoy to make a short halt to establish security. The convoy escort overwatches the obstacle and requests the breach element force to move forward. (See figure D-16.)
  - e. The convoy escort maintains 360-degree security of the convoy and provides overwatch as the breach force reconnoiters the obstacle in search of a bypass.
1041. What occurs once the reconnaissance is complete?
- a. Once all reconnaissance are complete, the convoy commander determines which of the following COA is suitable for mission accomplishment:
  - b. Bypass the obstacle.
  - c. Breach the obstacle with assets on hand.
  - d. Breach the obstacle with reinforcing assets.
1042. What actions are taken during a short halt on a convoy?
- a. During a short halt, the convoy escort remains alert for possible enemy activity. If the halt is for reasons other than an obstacle, the following actions should be taken:
  - b. The convoy commander signals the short halt and transmits the order via tactical radio. All vehicles in the convoy initially assume a herringbone formation.
  - c. If possible, escort vehicles are positioned up to 100 meters beyond the convoy vehicles just clear of the route. Escort vehicles remain at the ready, dismount the rifles teams or squads as required, and establish local security. Security elements or escort vehicles must occupy terrain within small arms range dominating the convoy route during halts.
  - d. When the order is given to move out, convoy vehicles reestablish movement
  - e. formation, leaving space for escort vehicles. Once the convoy is in column, local security elements (if used) return to their vehicles, and escort vehicles rejoin the column. The convoy resumes movement.
1043. How do soldiers process detainees?
- a. Soldiers must process detainees using the "search, silence, segregate, speed, safeguard, and tag" (5 Ss and T) technique. The steps of this process are described as follows:
  - b.

- c. Search. Neutralize a detainee and confiscate weapons, personal items, and items of potential intelligence or evidentiary value.
- d.
- e. Silence. Prevent detainees from communicating with one another or making audible clamor such as chanting, singing, or praying. Silence uncooperative detainees by muffling them with a soft, clean cloth tied around their mouths and fastened at the backs of their heads. Do not use duct tape or other adhesives, place a cloth or other objects inside the mouth, or apply physical force to silence detainees.
- f.
- g. Segregate. Segregate detainees according to policy and SOPs. (Segregation requirements differ from operation to operation.) The ability to segregate detainees may be limited by the availability of manpower and resources at the POC. At a minimum, try to segregate detainees by grade, gender, age (keeping adults from juveniles and small children with mothers), and security risk. Military intelligence and military police personnel can provide additional guidance and support in determining the appropriate segregation criteria.
- h.
- i.
- j. Safeguard. Protect detainees and ensure the custody and integrity of all confiscated items. Soldiers must safeguard detainees from combat risk, harm caused by other detainees, and improper treatment or care. Report all injuries. Correct and report violations of U.S. military policy that occur while safeguarding detainees. Acts, omissions or both that constitute inhumane treatment are violations of the law of war and, as such, must be corrected immediately. Simply reporting violations is insufficient. If a violation is ongoing, a Soldier has an obligation to stop the violation and report it.
- k.
- l. Speed to a safe area/rear. Quickly move detainees from the continuing risks associated with other combatants or sympathizers who still may be in the area of capture. If there are more detainees than the Soldiers can control, call for additional support, search the detainees, and hold them in place until reinforcements arrive.
- m.
- n. Evacuate detainees from the battlefield to a holding area or facility as soon as possible. Transfer captured documents and other property to the forces assuming responsibility of the detainees.
- o.
- p.
- q. Tag. Ensure that each detainee is tagged using DD Form 2745. (See figure D-20a.) Confiscated equipment, personal items, and evidence will be linked to the detainee using the DD Form 2745 number. When a DA Form 4137, Evidence/Property Custody Document, is used to document confiscated items, it will be linked to the detainee by annotating the DD Form 2745 control number on the form or by field expedient means. Field expedient means should include tagging with date and time of capture, location of capture, capturing unit, and circumstances of capture. There are three parts to this form. DD Form 2745, Unit

Record Card, Part B, is the unit record copy. (See figure D-20b, page D-44). DD Form 2745, Document/Special Equipment Weapons Card, Part C, is for detainee confiscated property. (See figure

- r. D-20c, page D-44). Tagging is critical. If it does not happen the ability of higher headquarters to obtain pertinent tactical information quickly is reduced greatly.
1044. What is the role of the M249 in the platoon and squad?
- a. The M249 light machine gun is organic to the Infantry platoon and squads. It provides rifle squads with a light automatic weapon for employment during assault. (See figure F-1, page F-4.) The M249 also can be used in the medium machine gun role in defensive missions or support-by-fire position. The M249 fires from the bipod, the shoulder, the hip, or from the underarm position. The hip and underarm positions normally are used for close-in fire during an assault when the M249 gunner is on the move and does not have time to set the gun in the bipod position. It is best used when a high rate of fire is needed immediately. Accuracy of fire is decreased when firing from either the hip or shoulder.
1045. How are the types of M249 ammunition classified?
- a. Available M249 ammunition is classified as follows (see table F-2):
  - b. M855 5.56-mm Ball. For use against light materiel and personnel, but not vehicles.
  - c. M856 5.56-mm Tracer. Generally used for adjustments after observation,
  - d. incendiary effects, and signaling. When tracer rounds are fired, they normally are mixed with ball ammunition in a ratio of four ball rounds to one tracer round.
  - e. M193 5.56-mm Ball. M193 ball ammunition can be fired with the M249, but
  - f. accuracy is degraded. For this reason, it only should be used in emergency situations when M855 ball is not available.
  - g. M196 5.56-mm Tracer. M196 tracer ammunition can be fired with the M249, but
  - h. accuracy is degraded. For this reason it only should be used in emergency situations when M856 ammunition is not available.
1046. Where are the medium machine guns found? What are the roles of the medium machine guns?
- a. Two medium machine guns and crews are found in the weapons squad. (See figure F-2.) The M240B can be fired in the assault mode in emergencies, but normally is fired from the bipod or tripod platform. It also can be vehicle mounted. The platoon leader (through his weapons squad leader ) employs his M240B medium machine guns with a rifle squad to provide long range, accurate, sustained fires against dismounted Infantry, apertures in fortifications, buildings, and lightly-armored vehicles. The M240B also
  - b. provides a high volume of short-range fire in self-defense against aircraft. Machine gunners use point, traversing, searching, or searching and traversing fire to kill or suppress targets.
1047. How is M240B ammo classified?
- a. Available M240B medium machine gun ammunition is classified as follows (see table F-3):
  - b. M80 7.62-mm Ball. For use against light materiel and personnel.

- c. M61 7.62-mm Armor Piercing. For use against lightly-armored targets.
  - d. M62 7.62-mm Tracer. For observation of fire, incendiary effects, signaling, and for training. When tracer rounds are fired, they normally are mixed with ball
  - e. ammunition in a ratio of four ball rounds to one tracer round.
1048. What are the characteristics of the M240L?
- a. The M240L Short Barrel reduces the length of the standard barrel by four inches and the weight by .5 pounds, while maintaining accurate fire at extended ranges. The shorter barrel improves mobility in military operations in urban terrain environments. At 22.3 pounds, the M240L is 5.1 pounds lighter than the M240B and is 5.6 pounds lighter with the short barrel installed.
1049. How is the MK19 implemented by the platoon or squad?
- a. The MK19 is not organic to the weapons company, not the Infantry platoon or
  - b. squad, but because there are many times when Infantry Soldiers use it, it is described in this appendix. The MK19 supports the Soldier in both the offense and defense. It gives the unit the capability of laying down a heavy volume of close, accurate, and continuous fire.
  - c. (See figure F-4.) The MK19 also can—
  - d. Protect motor movements, assembly areas, and supply trains in a bivouac.
  - e. Defend against hovering rotary aircraft.
  - f. Destroy lightly-armored vehicles.
  - g. Fire on enemy prepared positions.
  - h. Provide high volumes of fire into an engagement area.
  - i. Cover obstacles.
  - j. Provide indirect fires from defilade positions.
1050. How is MK19 ammo classified?
- a. Available MK19 machine gun ammunition is classified as follows (see table F-4):
  - b. M430 40-mm HEDP. This is the standard round of the MK19 and comes packed in either 48- or 32- round ammunition containers. It can penetrate two inches of steel armor at zero-degree obliquity and inflict casualties out to 15 meters from impact. It arms within 18 to 30 meters of the gun muzzle.
  - c. M383 40-mm HE. Comes packed in a 48-round container. It has a wound radius of 15 meters, but lacks the armor-piercing capabilities of the HEDP round. It arms 18 to 36 meters from the muzzle.
1051. How does the M2A1 increase the capabilities of the squad and platoon?
- a. The M2A1 .50-caliber machine gun with Quick Change Barrel is an enhancement to the M2 .50-caliber machine gun offering Soldiers increased performance as well as new features and design improvements that make it easier and safer to use. The M2A1 provides a fixed headspace and timing configuration, flash hider, and removable carrying handle, which increase the performance of the battle-proven M2. The M2A1 speeds target engagement and improves survivability and safety by reducing the time required to change the barrel and eliminating the timely procedure of setting headspace. The flash hider reduces muzzle flash by 95 percent, making the M2A1 less detectable in limited visibility.
1052. What is LOS?

- a. LOS is an imaginary line drawn from the firer's eye through the sights to the point of aim.
1053. What is a burst?
- a. A burst of fire is a number of successive rounds fired with the same elevation and point of aim when the trigger is held to the rear. The number of rounds in a burst can vary depending on the type of fire employed.
1054. What is trajectory?
- a. Trajectory is the curved path of the projectile in its flight from the muzzle of the weapon to its impact. The major factors influencing trajectory are the velocity of the round, gravity, rotation of the round, and air resistance. As the range to the target increases, so does the curve of trajectory.
1055. What is maximum ordinate?
- a. Maximum ordinate is the highest point above the LOS the trajectory reaches between the muzzle of the weapon and base of target. It always occurs at a point about two-thirds of the distance from weapon to target and increases with range. Like trajectory, maximum ordinate increases as the range increases.
1056. What is a cone of fire?
- a. The cone of fire is the pattern formed by the different trajectories in each burst as they travel downrange. Vibration of the weapon and variations in ammunition and atmospheric conditions all contribute to the trajectories making up the cone of fire.
1057. What is the beaten zone?
- a. The beaten zone is the elliptical pattern formed when the rounds within the cone of fire strike the ground or target. The size and shape of the beaten zone change as a function of the range to and slope of the target, but is normally oval or cigar shaped and density of rounds decreases toward the edges. Gunners and AR should engage targets to take maximum effect of the beaten zone. The simplest way to do this is to aim at the center base of the target. Most rounds will not fall over the target, and falling short creates ricochets into the target.
1058. What is the effective beaten zone?
- a. Because of dispersion, only part of the beaten zone in which 85 percent of the rounds fall is considered the effective beaten zone.
1059. What occurs to the beaten zone as the range to the target increases?
- a. As the range to the target increases, the beaten zone becomes shorter and wider. Conversely, as the range to the target decreases, the beaten zone becomes longer and narrower.
1060. How does the length of the beaten zone vary?
- a. The length of the beaten zone for given ranges varies according to the slope of the ground. On rising ground, the beaten zone becomes shorter but remains the same width. On ground sloping away from the gun, the beaten zone becomes longer but remains the same width.
1061. What is danger space?
- a. This is the space between the muzzle of the weapon and target where trajectory does not rise above 1.8 meters (the average height of a standing Soldier)

including the beaten zone. Gunners should consider the danger space of weapons when planning overhead fires.

1062. What are surface danger zone?

- a. Surface danger zones were developed for each weapon and are defined as the area in front, back, or side of the muzzle of the weapon providing a danger to friendly forces when the weapon is fired. The surface danger zones is not just the area comprising the cone of fire as it moves downrange. It also involves the possible impact area on both sides of the gun target line and possible dispersion of materiel caused by the strike of the rounds, the possible ricochet area, and areas to the rear adversely affected by the effects of firing the weapon.

1063. Why were surface danger zones created?

- a. Surface danger zones were developed primarily for ranges and must be complied with when training, but they also should be complied with in combat when possible to minimize risk to friendly forces.

1064. How are fires with respect to the ground classified?

- a. Fires with respect to the ground include grazing and plunging fire.

1065. What is dead space?

- a. Folds or depressions in the ground preventing a target from being engaged from a fixed position are termed dead space. Paragraph F-80 discusses methods of determining dead space

1066. How do automatic weapons achieve grazing fire?

- a. Automatic weapons achieve grazing fire when the center of the cone of fire does not rise more than one meter above the ground. Grazing fire is employed in the FPL in the defense and is only possible when the terrain is level or sloping uniformly. Dead space encountered along the FPL must be covered by indirect fire, such as from an M203/M320. When firing over level or uniformly sloping terrain, the machine gun M240-series and M249 can attain a maximum of 600 meters of grazing fire. The M2/M2A1 can attain a maximum of 700 meters. Paragraphs F-77 and F-78 discuss the FPL.

1067. When does plunging fire occur?

- a. Plunging fire occurs when there is little or no danger space from the muzzle of the weapon to the beaten zone. It occurs when weapons fire at long range, when firing from high ground to low ground, when firing into abruptly rising ground, or when firing across uneven terrain, resulting in a loss of grazing fire at points along the trajectory

1068. What are fires with respect to the target?

- a. Fires with respect to the target include enfilade, frontal, flanking, and oblique fire. (See figure F-11, page F-16, and figures F-12 and F-13, both on F-17.) These targets normally are presented to gun teams by the enemy and must be engaged as they are presented. For example, if the enemy presents its flank to the gun crew as it moves past their position from the left or right, the gun crew will have no choice but to employ flanking fire on the enemy.

1069. Where should leaders strive to position their gun teams?

- a. Leaders and gunners should strive at all times to position their gun teams where they can best take advantage of the machine gun's beaten zone with respect to an enemy target. Channeling the enemy by use of terrain or obstacles so they approach a friendly machine gun position from the front in a column formation is one example. In this situation, the machine gun would employ enfilade fire on the enemy column, and effects of the machine gun's beaten zone would be much greater than if it engaged enemy column from the flank.
1070. When does enfilade fire occur?
- a. Enfilade fire occurs when the long axis of the beaten zone coincides or nearly coincides with the long axis of the target. It can be frontal fire on an enemy column formation or flanking fire on an enemy line formation. This is the most desirable class of fire with respect to the target because it makes maximum use of the beaten zone. Leaders and gunners always should strive to position the guns to the extent possible engaging enemy targets with enfilade fire.
1071. When does frontal fire occur?
- a. Frontal fire occurs when the long axis of the beaten zone is at a right angle to the front of the target. This type of fire is highly desirable when engaging a column formation. It then becomes enfilade fire as the beaten zone coincides with the long axis of the target. (See figures F-11, page F-16, and F-12, page F-17.) Frontal fire is not as desirable when engaging a line formation because the majority of the beaten zone normally falls below or after the enemy target.
1072. What is flanking fire? When is flanking fire desirable?
- a. Flanking fire is delivered directly against the flank of the target. Flanking fire is highly desirable when engaging an enemy line formation. It then becomes enfilade fire as the beaten zone will coincide with the long axis of the target. (See figures F-11, page F-16, and F-12, page F-17.) Flanking fire against an enemy column formation is least desirable because the majority of the beaten zone normally falls before or after the enemy target.
1073. How is oblique fire achieved?
- a. Gunners and automatic riflemen achieve oblique fire when the long axis of the beaten zone is at an angle other than a right angle to the front of the target.
1074. What are fires with respect to the weapon?
- a. Fires with respect to the weapon include fixed, traversing, searching, traversing and searching, swinging traverse, and free gun fires.
1075. What is fixed fire?
- a. Fixed fire is delivered against a stationary point target when the depth and width of the beaten zone covers the target with little or no manipulation needed. After the initial burst, the gunners follow changes or movement of the target without command.
1076. How does traversing fires disperse fires?
- a. Traversing disperses fires in width by successive changes in direction, but not elevation. It is delivered against a wide target with minimal depth. When engaging a wide target requiring traversing fire, the gunner selects successive aiming points throughout the target area. These aiming points should be close

enough together to ensure adequate target coverage. However, they do not need to be so close wasting ammunition by concentrating a heavy volume of fire in a small area.

1077. How does searching distribute fires?

- a. Searching distributes fires in-depth by successive changes in elevation. It is employed against a deep target or a target having depth and minimal width, requiring changes in only the elevation of the gun. The amount of elevation change depends upon the range and slope of the ground. This class of fire is a combination in which successive changes in direction and elevation result in the distribution of fires both in width and depth. It is employed against a target whose long axis is oblique to the direction of fire.

1078. When is swing travers fire employed?

- a. Swinging traverse fire is employed against targets requiring major changes in direction but little or no change in elevation. Targets may be dense, wide, in close formations moving slowly toward or away from the gun, or vehicles or mounted troops moving across the front. If tripod mounted, the traversing slide lock lever is loosened enough to permit the gunner to swing the gun laterally. When firing swinging traverse, the weapon normally is fired at the cyclic rate of fire. Swinging traverse consumes a lot of ammunition and does not have a beaten zone because each round seeks its own area of impact.

1079. When is free gun fire employed?

- a. Free gun fire is delivered against moving targets rapidly engaging with fast changes in both direction and elevation. Examples are aerial targets, vehicles, mounted troops, or Infantry in relatively close formations moving rapidly toward or away from the gun position. When firing free gun, the weapon normally is fired at the cyclic rate of fire. Free gun fire consumes a lot of ammunition and does not have a beaten zone because each round seeks its own area of impact.

1080. What does application of fire consist of?

- a. Application of fire consists of the methods the gunner uses to cover an enemy target area. Training these methods of applying fire can be accomplished only after the weapons squad leader and gunners have learned how to recognize the different types of targets they may find in combat. They also must know how to distribute and concentrate their fire, and how to maintain the proper rate of fire. Normally, the gunner is exposed to two types of targets in the squad or platoon area of operation: enemy soldiers and supporting automatic weapons. Leaders must ensure targets have priority and are engaged immediately. Machine gun fire must be distributed over the entire target area. Improper distribution of fire results in gaps allowing the enemy to escape or use its weapons against friendly positions without opposition. The method of applying fire to a target is generally the same for either a single gun or a pair of guns. Direct lay is pointing the gun for direction and elevation so the sights are aligned directly on the target. Fire is delivered in width, depth, or in a combination of the two. To distribute fire properly, gunners must know where to aim, how to adjust their fire, and direction

to manipulate the gun. The gunner must aim, fire, and adjust on a certain point of the target. Binoculars may be used by the leader to facilitate fire adjustment.

1081. What is considered correct sight picture of a machine gun?
- A correct sight picture has the target, front sight post, and rear sight aligned. The sight picture has sight alignment and placement of the aiming point on the target. The gunner aligns the front sight post in the center of the rear sight and aligns the sights with the target. The top of the front sight post is aligned on the center base of the target.
1082. What must the gunner ensure while firing?
- The gunner ensures throughout his firing the center of the beaten zone is maintained at the center base of the target for maximum effect from each burst of fire. When this is done, projectiles in the upper half of the cone of fire will pass through the target if it has height, and projectiles in the lower half of the beaten zone may ricochet into the target.
  - The gunner must move his beaten zone in a certain direction over the target. The direction depends on the type of target and whether the target is engaged with a pair of guns or a single gun. When engaging targets other than point targets with a pair of guns, the targets are divided so fire is distributed evenly throughout the target area. Fire delivered on point targets or a specific area of other target configurations is called concentrated fire.
1083. How do gunner most effectively engage targets?
- Gunners engage targets throughout their respective sectors. They must know how to engage all types of targets, either individually or with other gunners. Gunners' targets in combat are normally enemy troops in various formations or displacements, which require distribution and concentration of fire. These targets often have both width, depth, and application of machine gun fire is designed to completely cover the area in which the enemy is known or suspected to be. These targets may be easy to see or may be indistinct and difficult to locate. The size of the target, stated in terms of the number of aiming points required to engage it completely, determines its type.
1084. What is a gunner responsible for?
- When a single gunner is assigned targets he is responsible for covering the entire target. When a pair of gunners engage an enemy target, each gunner normally is responsible for covering one half of the target. The gunners must be prepared to engage the entire target should the other gun go down. The machine gun can provide units with a self-defense capability against hostile low-flying, low-performance aircraft. These guns are employed in the air defense role as part of the unit's local defense. The machine guns are not components of an integrated and coordinated air defense system. Unless otherwise directed, hostile aircraft within range of the gun (about 800 meters maximum effective range) should be engaged. The decision will be made by the commander or leader. Typical targets are surveillance, reconnaissance, and liaison aircraft; troop carriers; helicopters; and drones.
1085. What is the goal of machine gun implementation against aircraft?

- a. The mission is to impose maximum attrition upon the attacking enemy such as lowflying, low-performance aircraft. Employment of machine guns used for air defense is guided by the following defensive design factors:
  - b. Defensive design should produce an equally balanced defense in all directions, unless a forced route of approach exists.
  - c. Machine guns should be sited so the maximum number of targets can be engaged, continuous fire can be delivered, and likely routes of approach are covered.
  - d. Machine guns used to defend march columns should be interspersed in the convoy, with emphasis on the lead and rear elements.
1086. What determines how machine gun fire is applied? What are the three rates of fire used for automatic weapons?
- a. The size and nature of the enemy target determines how machine gun fire is applied. Automatic weapons fire in one of three rates: rapid, sustained, or cyclic. The rates of fire for each machine gun are shown in table F-1. The situation normally dictates the rate used, but the availability of ammunition and need for barrel changes play important roles as well. The rate of fire must be controlled to cover the target adequately, but not waste ammunition or destroy the barrel.
1087. How is distributed fire delivered?
- a. Distributed fire is delivered in width and depth such as at an enemy formation. Concentrated fire is delivered at a point target such as an automatic weapon or an enemy fighting position.
1088. What is the purpose of rapid rates of fire?
- a. Rapid rate of fire places an exceptionally high volume of fire on an enemy position. Machine gunners normally engage targets at the rapid rate to suppress the enemy quickly. Rapid fire requires more ammunition than sustained fire and requires frequent barrel changes.
1089. What rate of fire is used once the enemy has been suppressed?
- a. Once the enemy has been suppressed, machine gunners fire at the sustained rate. Sustained fire conserves ammunition and requires only infrequent barrel changes, but it might not be enough volume of fire to suppress or destroy.
1090. How do gunners fire at the cyclic rate? Why is the cyclic rate used?
- a. To fire the cyclic rate, the gunner holds the trigger to the rear while the assistant gunner feeds ammunition into the weapon. This normally is used only to engage aerial targets in self-defense or to fire the final protective fires in the defense to protect the perimeter. This produces the highest volume of fire the machine gun can fire, but can permanently damage the machine gun and barrel and should be used only in case of emergency.
1091. Gunners have difficulty detecting and identifying targets during limited visibility. How does the impact the use of machine guns in limited visibility conditions?
- a. Gunners have difficulty detecting and identifying targets during limited visibility. The leader's ability to control the fires of his weapons also is reduced; therefore, he may instruct the gunners to fire without command when targets present themselves. Gunners should engage targets only when they can identify the

targets, unless ordered to do otherwise. For example, if one gunner detects a target and engages it, the other gunner observes the area fired upon and adds his fire only if he can identify the target or if ordered to fire. Tracer ammunition helps a gunner engage targets during limited visibility and should be used if possible. It is important to note in certain circumstances the enemy will have an easy time identifying the machine gun's position if the gunner uses tracer ammunition. The need to engage targets must be balanced with the need to keep the guns safe before deciding to employ tracers. If firing unaided, gunners must be trained to fire low at first and adjust upward. This overcomes the tendency to fire high. When two or more gunners are engaging linear targets, linear targets with depth, or deep targets, they do not engage these targets as they would when visibility is good. With limited visibility, the center and flanks of these targets may not be defined clearly. Therefore, each gunner observes his tracers and covers what he believes to be the entire target.

1092. What is assault fire? Who uses assault fire? When is it used?
- Automatic riflemen use assault fire when in close combat. Assault fire involves firing without the aid of sights using the hip, shoulder, and underarm positions. The underarm position is best when rapid movement is required. In all three positions, automatic riflemen adjust their fire by observing the tracer and impact of the bullets on the target area. Additional considerations for automatic riflemen using assault fire include:
  - Maintaining alignment with the rest of the assault element.
  - Reloading rapidly.
  - Aiming low and adjusting the aim upward toward the target.
  - Distributing fires across the objective when not engaging enemy automatic weapons.
1093. What can gunners use overhead fire?
- Gunners can use overhead fire when there is sufficient low ground between the machine gun and target area of the maneuver friendly forces. A machine gun on a tripod is capable of delivering this type of fire because of the small and uniform dispersion of the cone of fire. Gunners must estimate accurately range to the target and establish a safety limit imaginary line parallel to the target where fire would cause casualties to friendly Soldiers. Gun crews and leaders must be aware of this safety limit. Leaders must designate signals for lifting or shifting fires. Gunners should not attempt overhead fires if the terrain is level or slopes uniformly, if the barrel is badly worn, or if visibility is poor.
1094. What is the gunners rule? When can it be applied?
- The gunner's rule can be applied when the friendly troops are at least 350 meters in front of the gun position and range to the target is 850 meters or less. (See figure F-17.) The rule follows:
  - Lay the gun on the target with the correct sight setting to hit the target.
  - Without disturbing the lay of the gun, set the rear sight at a range of 1600 meters.

- d. Look through the sights and notice where the new line of aim strikes the ground. This is the limit of troop safety. When the feet of the friendly troops reach this point, fire must be lifted or shifted.
1095. When should overhead fire be used when the target range is over 850 meters?
- a. When the range to the target is greater than 850 meters, overhead fire should be delivered only in an emergency. Even then, fire should extend only to a range at which the tracers or strike of the bullets can be seen by the gunner. In this situation the leader's rule applies. (See figure F-18.) The platoon or section leader uses the leader's rule only when the target is greater than 850 meters. The rule follows:
  - b. Select a point on the ground where it is believed friendly troops can advance with safety.
  - c. Determine the range to this point by the most accurate means available.
  - d. Lay the gun on the target with the correct sight setting to hit the target.
  - e. Without disturbing the lay of the gun, set the rear sight to 1600 meters or the range to the target plus 500 meters, whichever is the greater of the two ranges. Under no conditions should the sight setting be less than 1500 meters. Note the point where the new line of aim strikes the ground: If it strikes at the selected point, that point marks the limit of safety.
  - f. If it strikes short of the selected point, it is safe for troops to advance to the point where the line of aim strikes the ground and to an unknown point beyond. If fire is called for after friendly troops advance farther than the point where the line of aim strikes the ground, this farther point is determined by testing new selected points until the line of aim and selected point coincide.
  - g. If it clears the selected point, it is safe for troops to advance to the selected point and to an unknown point beyond. If it is advantageous to have troops advance beyond the selected point, this farther point must be determined by testing new selected points until the line of aim and selected point coincide. This point marks the line of safety.
1096. How are defilade positions beneficial to gunners?
- a. Defilade positions protect gunners from frontal or enfilading fires. (See figure F-19, page F-26.) Cover and concealment may not provide the gunner a view of some or all of the target area. In this instance, some other member of the platoon or squad must observe the impact of the rounds and communicate adjustments to the gunner. (See figure F-20, page F-26.) Gunners and leaders must consider the complexity of laying on the target. They also must take into account the gunner's inability to make rapid adjustments to engage moving targets, the ease with which targets are masked, and difficulty in achieving grazing fires for an FPL.
1097. What is the purpose of predetermined fires?
- a. Predetermined fires organize the battlefield for gunners. They allow the leader and gunner to select potential targets or target areas most likely being engaged or have tactical significance. This includes dismounted enemy avenues of approach, likely positions for automatic weapons, and probable enemy assault

positions. The gunners do this by using sectors of fire, FPL, or a PDF and selected target areas. This preparation maximizes the effectiveness of the machine gun during good as well as limited visibility. It enhances fire control by reducing the time required to identify targets, determine range, and manipulate the weapon onto the target. Abbreviated fire commands and previously recorded data enable the gunner to aim or adjust fire on the target quickly and accurately. Selected targets should be fired on in daylight whenever practical to confirm data. The range card identifies the targets and provides a record of firing data. DA Form 5517 provides a record of firing data and aids defensive fire planning.

1098. What is a sector of fire?

- a. A sector of fire is an area to be covered by fire assigned to an individual, a weapon, or a unit. Gunners normally are assigned a primary and a secondary sector of fire.

1099. What is the definition of final protective fires?

- a. Final protective fires is an immediately-available, prearranged barrier of fire to stop enemy movement across defensive lines or areas.

1100. What is a final protective line?

- a. An FPL is a predetermined line along which grazing fire is placed to stop an enemy assault. If an FPL is assigned, the machine gun is sighted along it except when other targets are being engaged. An FPL becomes the machine gun's part of the unit's FPFs. An FPL is fixed in direction and elevation. However, a small shift for search must be employed to prevent the enemy from crawling under the FPL and to compensate for irregularities in the terrain or the sinking of the tripod legs into soft soil during firing. Fire must be delivered during all conditions of visibility. A good FPL covers the maximum area with grazing fire. Grazing fire can be obtained over various types of terrain out to a maximum of 600 meters. To obtain the maximum extent of grazing fire over level or uniformly sloping terrain, the gunner sets the rear sight at 600 meters. He then selects a point on the ground he estimates to be 600 meters from the machine gun, and he aims, fires, and adjusts on that point. To prevent enemy soldiers from crawling under grazing fire, he searches (downward) by lowering the muzzle of the weapon.

1101. What is principal direction of fire?

- a. PDF is assigned to a gunner to cover an area having good fields of fire or has a likely dismounted avenue of approach. It also provides mutual support to an adjacent unit. Machine guns are sited using the PDF if an FPL has not been assigned. If a PDF is assigned and other targets are not being engaged, machine guns remain on the PDF. A PDF has the following characteristics:
- b. It is used only if a final protective line is not assigned; it then becomes the machine gun's
- c. part of the unit's final protective fires.
- d. When the target has width, direction is determined by aiming on one edge of the target area and noting the amount of traverse necessary to cover the entire target.

- e. The gunner is responsible for the entire wedge-shaped area from the muzzle of the weapon to the target, but elevation may be fixed for a priority portion of the target.
1102. How is the extent of dead space and grazing fire determined?
- a. The extent of grazing fire and dead space may be determined in two ways. In the preferred method, the machine gun is adjusted for elevation and direction. A squad member then walks along the FPL while the gunner aims through the sights. In places where the Soldier's waist (midsection) falls below the gunner's point of aim, dead space exists. Arm-and-hand signals must be used to control the Soldier who is walking and to obtain an accurate account of the dead space and its location. Another method is to observe the flight of tracer ammunition from a position behind and to the flank of the weapon.
1103. What is the primary sector of fire assigned to?
- a. The primary sector of fire is assigned to the gun team to cover the most likely avenue of enemy approach from all types of defensive positions.
1104. What is the secondary sector of fire assigned to?
- a. The secondary sector of fire is assigned to the gun team to cover the second most likely avenue of enemy approach. It is fired from the same gun position as the primary sector of fire.
1105. How are base stakes used?
- a. A base stake is used to define sector limits and may provide the lay of the FPL or predetermined targets along a primary or secondary sector limit. This technique is effective in all visibility conditions. The gunner uses the following steps:
  - b. Defines the sector limits by laying the gun for direction along one sector limit and by emplacing a stake along the outer edge of the folded bipod legs. Rotates the legs slightly on the receiver, so the gunner takes up the "play." Uses the same procedure for placing a stake along the opposite sector limit.
  - c. Lays the machine gun along the FPL by moving the muzzle of the machine gun to a sector limit. Adjusts for elevation by driving a stake into the ground so the top of the stake is under the gas cylinder extension. This allows a few MILS of depression to cover irregularities in the terrain.
  - d. Lays the machine gun to engage other targets within a sector limit. Done in a primary sector by using the procedure described previously, except he keeps the elevation fixed.
1106. Why does the gunner use the notched-stake or tree-crotch technique with the bipod mount?
- a. The gunner uses the notched-stake or tree-crotch technique with the bipod mount to engage predetermined targets within a sector or to define sector limits. This technique is effective during all conditions of visibility and requires little additional materiel. The gunner uses the following steps:
  - b. Drives either a notched stake or tree crotch into the ground where selected targets are anticipated. Places the stock of the machine gun in the nest of the stake or crotch and adjusts the weapon to hit the selected targets and to define his sector limits.

- c. Digs shallow, curved trenches or grooves of the bipod feet. (These trenches allow for rotation of the bipod feet as the gunner moves the stock from one crotch or stake to another.)
1107. How is the horizontal log technique used?
- a. This technique is used with the bipod or tripod mount to mark sector limits and engage wide targets. It is good for all visibility conditions and is best suited for flat, level terrain. The gunner uses the following steps.
  - b. Using a bipod-mounted machine gun, the gunner places a log or board beneath the stock of the weapon so the stock can slide across it freely. He digs shallow, curved trenches or grooves for the bipod feet to allow rotation of the feet as he moves the stock along the log or board. (The gunner may mark the sector limits by notching or placing stops on the log or board. The gunner uses the bipod firing position and grip.)
  - c. Using a tripod-mounted machine gun, the gunner places a log or boards beneath the barrel, positioning it so the barrel, when resting on the log or board, is at the proper elevation to obtain grazing fire. When appropriate, he marks the sector limits as described of the bipod in the preceding paragraph. (This technique is used only if a T&E mechanism is not available.)
1108. What is the definition of fire control? How are predetermined targets engaged?
- a. Fire control includes all actions of the leader and Soldiers in planning, preparing, and applying fire on a target. The leader selects and designates targets. He also designates the midpoint and flanks or ends of a target, unless they are obvious to the gunner. The gunner fires at the instant desired. He then adjusts fire, regulates the rate of fire, shifts from one target to another, and ceases fire. When firing, the gunner should continue to fire until the target is neutralized or until signaled to do otherwise by the leader.
  - b. Predetermined targets, including the FPL or PDF, are engaged on order or by SOP. The signal for calling these fires normally is stated in the defensive order. Control these predetermined targets by using arm-and-hand signals, voice commands, or pyrotechnic devices. Gunners fire the FPL or PDF at the sustained rate of fire unless the situation calls for a higher rate. When engaging other predetermined targets, the sustained rate of fire also is used unless a different rate is ordered.
1109. What are considerations for the oral fire control method?
- a. The oral fire control method can be effective, but sometimes the leader may be too far away from the gunner, or the noise of the battle may make it impossible for him to hear. The primary means of the oral fire control method is the issuance of a fire command.
1110. What are considerations for the usage of hand signals for fire control?
- a. Arm-and-hand signals are an effective fire control method when the gunner can see the leader. All gunners must know the standard arm-and-hand signals. The leader gets the gunner's attention and points to the target. When the gunner returns the READY signal, the leader commands FIRE.
1111. What are examples of prearranged signals?

- a. Prearranged signals are either visual or sound signals such as casualty-producing devices (rifle or Claymore), pyrotechnics, whistle blasts, or tracers. These signals should be included in SOPs. If the leader wants to shift fire at a certain time, he gives a prearranged signal such as obscurants or pyrotechnics. Upon seeing the signal, the gunner shifts his fire to a prearranged point.
1112. How do leaders issue orders to individual soldiers?
- a. In many situations, the leader must issue orders directly to individual Soldiers. Personal contact is used more than other methods by Infantry leaders. The leader must use maximum cover and concealment to keep from disclosing the position or himself.
1113. What must the leader ensure when using range cards for fire control?
- a. When using the range card method of fire control, the leader must ensure all range cards are current and accurate. Once this is accomplished, the leader may designate certain targets for certain weapons with the use of limiting stakes or with fire commands. He also should designate no-fire zones or restricted fire areas to others. The vital factor in this method of fire control is gunners must be well-disciplined and pay attention to detail.
1114. What are SOPs?
- a. SOPs are actions to be executed without command developed during the training of the squads. Their use eliminates many commands and simplifies the leader's fire control. SOPs for certain actions and commands can be developed to make gunners effective. Some examples follow:
  - b. Observation. The gunners continuously observe their sectors.
  - c. Fire. Gunners open fire without command on appropriate targets appearing within their sectors.
  - d. Check. While firing, the gunners periodically check with the leader for instructions.
  - e. Return fire. The gunners return enemy fire without order, concentrating on enemy automatic weapons.
  - f. Shift fire. Gunners shift their fires without command when more dangerous targets appear.
  - g. Rate of fire. When gunners engage a target, they initially fire at the rate necessary to gain and maintain fire superiority.
  - h. Mutual support. When two or more gunners are engaging the same target and one stops firing, the other increases the rate of fire and covers the entire target. When only one gunner is required to engage a target and the leader has alerted two or
  - i. more, the gunner not firing aims on the target and follows the movements of the target. He does this to fire instantly in case the other machine gun malfunctions or ceases fire before the target has been eliminated.
1115. Why are fire commands given?
- a. A fire command is given to deliver fire on a target quickly and without confusion. When the leader decides to engage a target not obvious to the squad, he must

provide it with the information needed to engage the target. He must alert the Soldiers; give a target direction, description, and range; name the method of fire; and give the command to fire. There are initial fire commands and subsequent fire commands.

1116. What is important to understand about fire commands?
- It is essential the commands delivered by the weapons squad leader are understood and echoed by the assistant gunner or gun team leader and gunner. Table F-7 provides an example of the weapons squad fire commands and actions used by the weapons squad leader, assistant gunner, gun team leader, and gunner.
1117. What are initial fire commands?
- Initial fire commands are given to adjust onto the target, change the rate of fire after a fire mission is in progress, interrupt fire, or terminate the alert.
1118. What are the elements of a fire command?
- Fire commands for all direct-fire weapons follow a pattern including similar elements. There are six elements in the fire command of the machine gun: alert; direction; description; range; method of fire; and command to open fire. The gunners repeat each element of fire command as it is given.
1119. What is the purpose of the alert command?
- This element prepares the gunners for more instructions. The leader may alert both gunners in the squad and may have only one fire, depending upon the situation. To alert and have both gunners fire, the leader announces FIRE MISSION. If he desires to alert both gunners but have only one fire, he announces GUN NUMBER ONE, FIRE MISSION. In all cases, upon receiving the alert, the gunners load their machine guns and place them on FIRE.
1120. What is the purpose of the direction command?
- This element indicates the general direction to the target and may be given in one or a combination of the following methods.
1121. How does the leader orally communicate fire direction?
- The leader orally gives the direction to the target in relation to the position of the gunner example, FRONT, LEFT FRONT, RIGHT FRONT.
1122. How does the leader designate a small or obscure target?
- The leader designates a small or obscure target by pointing with his finger or aiming with a weapon. When he points with his finger, a Soldier standing behind him should be able to look over his shoulder and sight along his arm and index finger to locate the target. When aiming his weapon at a target, a Soldier looking through the sights should be able to see the target. Leaders also may use lasers in conjunction with night vision devices to designate a target to the gunner.
1123. How can Tracer Ammunition be used to designate targets?
- Tracer ammunition is a quick and sure method of designating a target not clearly visible. When using this method, the leader first should give the general direction to direct the gunner's attention to the target area. To prevent the loss of surprise when using tracer ammunition, the leader does not fire until he has given all elements of the fire command except the command to fire. The leader may fire

his individual weapon. The firing of the tracers then becomes the last element of the fire command, and it is the signal to open fire.

1124. How can Reference Points be used to designate obscure targets?
- Another way to designate obscure targets is to use easy-to-recognize reference points. All leaders and gunners must know terrain features and terminology used to describe them. (Refer to TC 3-25.26 for more information.) When using a reference point, the word "reference" precedes its description. This is done to avoid confusion. The general direction to the reference point should be given.
1125. What is the purpose of the target description?
- The target description creates a picture of the target in the gunners' minds. To properly apply their fire, the Soldiers must know the type of target they are to engage. The leader should describe it briefly. If the target is obvious, no description is necessary.
1126. How is the target range announced?
- The leader always announces the estimated range to the target. The range is given, so the gunner knows how far to look for the target and what range setting to put on the rear sight. Range is announced in meters. However, since the meter is the standard unit of range measurement, the word "meters" is not used. With machine guns, the range is determined and announced to the nearest hundred or thousand example, THREE HUNDRED, or ONE THOUSAND.
1127. How is the Method of Fire communicated?
- This element includes manipulation and rate of fire. Manipulation dictates the class of fire with respect to the weapon. It is announced as FIXED, TRAVERSE, SEARCH, or TRAVERSE AND SEARCH. Rate controls the volume of fire (sustained, rapid, and cyclic). Normally, the gunner uses the sustained rate of fire. The rate of fire is omitted from the fire command. The method of fire of the machine gun is usually 3- to 5- round bursts (M249) and 6- to 9-round bursts (M240-series).
1128. How is the Command to Open Fire communicated?
- When fire is to be withheld so surprise fire can be delivered on a target or to ensure both gunners open fire at the same time, the leader may preface the command to commence firing with AT MY COMMAND or AT MY SIGNAL. When the gunners are ready to engage the target, they report READY to the leader. The leader then gives the command FIRE at the specific time desired. If immediate fire is required, the command FIRE is given without pause and gunners fire as soon as they are ready.
1129. What is the purpose of subsequent fire commands?
- Subsequent fire commands are used to make adjustments in direction and elevation, to change rates of fire after a fire mission is in progress, to interrupt fires, or to terminate the alert. If the gunner fails to properly engage a target, the leader must correct him promptly by announcing or signaling the desired changes. When these changes are given, the gunner makes the corrections and resumes firing without further command.
1130. How are adjustments in direction and elevation given?

- a. Adjustments in direction and elevation with the machine gun always are given in meters; one finger is used to indicate one meter and so on. Adjustment for direction is given first. Example: RIGHT ONE ZERO METERS or LEFT FIVE METERS.
  - b. Adjustment for elevation is given next. Example: ADD FIVE METERS or DROP ONE FIVE METERS. These changes may be given orally or with arm-and-hand signals:
  - c. Changes in the rate of fire are given orally or by arm-and-hand signals.
  - d. To interrupt firing, the leader announces CEASE FIRE, or he signals to cease fire. The gunners remain on the alert. They resume firing when given the command
  - e. FIRE.
  - f. To terminate the alert, the leader announces CEASE FIRE, END OF MISSION.
1131. What are common hand and arm signals are used for fire control?
- a. Battlefield noise and distance between the gunner and leader often make it necessary to use arm-and-hand signals to control fire. (See figure F-21.) When an action or movement is to be executed by only one of the gunners, a preliminary signal is given to the gunner only. The following are commonly used signals for fire control:
  - b. Ready. The gunner indicates he is ready to fire by yelling UP or having the AG raise his hand above his head toward the leader.
  - c. Commence firing or change rate of firing. The leader brings his hand (palm down) to the front of his body about waist level, and moves it horizontally in front of his body. To signal an increase in the rate of fire, he increases the speed of the hand movement. To signal slower fire, he decreases the speed of the hand movement.
  - d. Change direction or elevation. The leader extends his arm and hand in the new direction and indicates the amount of change necessary by the number of fingers extended. The fingers must be spread so the gunner can easily see the number of fingers extended. Each finger indicates one meter of change of the weapon. If the desired change is more than five meters, the leader extends his hand the number of times necessary to indicate the total amount of change. For example, right nine would be indicated by extending the hand once with five fingers showing and a second time with four fingers showing for a total of nine fingers. Interrupt or cease firing. The leader raises his arm and hand (palm outward) in front of his forehead and brings it downward sharply. Other signals. The leader can devise other signals to control his weapons. A detailed description of arm-and-hand signals is given in FM 21-60.
1132. Why are efficient and effective machine gun crews essential?
- a. The accomplishment of the platoon's or squad's mission demands efficient and effective machine gun crews. Leaders consider the mission and organize machine guns to deliver firepower and direct fire support to areas or point needed to accomplish the assigned mission. Infantry platoons normally will have an organic weapons squad consisting of a weapons squad leader and two gun

teams. Depending on the unit's organization or the platoon's and squad's mission, there could be additional machine gun teams attached or organic to the platoon or squad.

1133. What is the force structure of a weapon squad?
- a. The weapon squad consists of a weapons squad leader and medium machine gun teams. Each medium machine gun team has a gunner, assistant gunner, and ammunition bearer. In some units the senior member of the gun team is the gunner. In other units the assistant gunner is the senior gun team member who also serves as the gun team leader. Table F-8 illustrates equipment carried by the weapons squad. Table F-9 (page F-42) illustrates the duty positions within the weapons squad and gives possible duty descriptions and responsibilities. The tables serve to show possible position and equipment use only. Individual unit SOPs and available equipment dictate the exact role each weapons squad member plays within his squad.
1134. What is the definition of security? What are the principal measures of security?
- a. Security includes all command measures to protect against surprise, observation, and annoyance by the enemy. The principal security measures against ground forces include employment of security patrols and detachments covering the front flanks and rear of the unit's most vulnerable areas. The composition and strength of these detachments depends on the size of the main body, its mission, and nature of the opposition expected. The presence of machine guns with security detachments augments their firepower to delay, attack, and defend, by virtue of inherent firepower.
1135. The potential of air and ground attacks on the unit demands every possible precaution for maximum security while on the move. What does this mean?
- a. The potential of air and ground attacks on the unit demands every possible precaution for maximum security while on the move. Where this situation exists, the machine gun crew must be thoroughly trained in the hasty delivery of antiaircraft fire and of counterfire against enemy ground forces. The distribution of the medium machine guns in the formation is critical. The medium machine gun crew is constantly on the alert, particularly at halts, ready to deliver fire as soon as possible. If the leader expects a halt to exceed a brief period, he carefully chooses medium machine gun positions to avoid unduly tiring the medium machine gun crew. If he expects the halt to extend for a long period, he can have the medium machine gun crew take up positions in support of the unit. The crew covers the direction from which he expects enemy activity as well as the direction from which the unit came. The leader selects positions permitting the delivery of fire in the most probable direction of enemy attack, such as valleys, draws, ridges, and spurs. He chooses positions offering obstructed fire from potential enemy locations.
1136. What do offensive missions result from?
- a. Offensive missions result from the employment of fire and movement. Each is essential and greatly depends upon the other. Without the support of covering fires, maneuvering in the presence of enemy fire can result in disastrous losses.

Covering fires, especially providing fire superiority, allow maneuvering in the offense. However, fire superiority alone rarely wins battles. The primary objective of the offense is to advance, occupy, and hold the enemy position.

1137. What fire keeps the enemy from returning fire during offensive operations?
- Machine gun fire from a support-by-fire position must be the minimum possible to keep the enemy from returning fire. Ammunition must be conserved so the guns do not run out of ammunition. The weapons squad leader positions and controls the fires of all medium machine guns in the element. Machine gun targets include essential enemy weapons or groups of enemy targets either on the objective or attempting to reinforce or counterattack. In terms of engagement ranges, medium machine guns in the base-of-fire element may find themselves firing at targets within a range of 800 meters. The nature of the terrain, desire to achieve some standoff, and METT-TC prompts the leader to the correct tactical positioning of the base-of-fire element.
1138. What capabilities does the machine gun bring to a unit?
- The medium machine gun delivers an accurate, high-volume rate of lethal fire on fairly large areas in a brief time. When accurately placed on the enemy position, medium machine gun fires secure the essential element of fire superiority for duration of the firing. Troops advancing in the attack should take full advantage of this period to maneuver to a favorable position from where they can facilitate the last push against the enemy. In addition to creating enemy casualties, medium machine gun fire destroys the enemy's confidence and neutralizes his ability to engage the friendly maneuver element.
1139. What rates of fire are employed by the base of fire element?
- There are distinct phases of rates of fire employed by the base-of-fire element:
  - Initial heavy volume (rapid rate) to gain fire superiority
  - Slower rate to conserve ammunition (sustained rate) while still preventing return fire as the assault moves forward.
  - Increased rate as the assault nears the objective.
  - Lift and shift to targets of opportunity.
1140. What are considerations for the employment of machine guns for support by fire?
- All vocal commands from the leaders to change the rates of fire are accompanied simultaneously by arm-and-hand signals.
  - Machine guns in the support by fire role should be set in and assigned a primary and alternate sector of fire as well as a primary and alternate position.
  - Machine guns are suppressive fire weapons used to suppress known and suspected enemy positions. Therefore, gunners cannot be allowed to empty all their ammunition into one bunker simply because it's all they can identify at the time
  - The support-by-fire position, not the assault element, is responsible for ensuring there is no masking of fires. The assault element might have to mask the support-by-fire line because it has no choice on how to move. It is the support-by-fire gunner's job to shift fires continually, or move gun teams or the weapons squad to support the assault and prevent masking.

- e. Shift and shut down the weapon squad gun teams one at a time, not all at once. M203/M320 and mortar or other indirect fire can be used to suppress while the medium machine guns are moved to where they can fire.
  - f. Leaders must take into account the surface danger zones of the machine guns when planning and executing the lift and or shift of the support-by-fire guns. The effectiveness of the enemy on the objective will play a large role in how much risk should be taken with respect to the lifting or shifting of fires.
  - g. Once the support-by-fire line is masked by the assault element, fires are shifted and or lifted to prevent enemy withdrawal or reinforcement.
1141. What should happen if medium machine guns are employed in a maneuver element?
- a. Under certain terrain conditions, and for proper control, medium machine guns may join the maneuver or assault unit. When this is the case, they are assigned a cover fire zone or sector. The medium machine guns seldom accompany the maneuver element. The gun's primary mission is to provide covering fire. The medium machine guns only are employed with the maneuver element when the area or zone of action assigned to the assault, platoon, squad or company is too narrow to permit proper control of the guns. The medium machine guns then are moved with the unit and readied to employ on order from the leader and in the direction needing the supporting fire. When medium machine guns move with the element undertaking the assault, the maneuver element brings the medium machine guns to provide additional firepower. These weapons are fired from a bipod, in an assault mode, from the hip, or from the underarm position. They target enemy automatic weapons anywhere on the unit's objective. Once the enemy's automatic weapons have been destroyed (if any), the gunners distribute their fire over their assigned zone or sector. In terms of engagement ranges, the medium machine gun in the assault engages within 300 meters of its target and frequently at pointblank ranges. Where the area or zone of action is too wide to allow proper coverage by the platoon's or weapons squad organic medium machine guns, the platoon or squads can be assigned additional medium machine guns or personnel from within the company. This may permit the platoon or squads to accomplish its assigned mission. The medium machine guns are assigned a zone or a sector to cover and move with the maneuver element.
1142. How is the M249 to be used in the offense?
- a. In the offense, M249s target enemy-supporting weapons being fired from fixed positions anywhere on the squad's objective. When the enemy's supporting weapons have been destroyed, or if there are none, the machine gunners distribute their fire over portion of the objective corresponding to their team's position.
1143. How is the M240 to be used in the offense?
- a. In the offense the platoon leader has the option to establish his base-of-fire element with one or two machine guns, the M249 light machine gun, or a combination of the weapons. The platoon sergeant or weapons squad leader may position this element and control its fires when the platoon scheme of maneuver is to conduct the assault with the Infantry squads. The M240-series

machine gun, when placed on a tripod, provides stability and accuracy at greater ranges than the bipod, but it takes more time to maneuver the machine gun should the need arise. The machine gunners target essential enemy weapons until the assault element masks their fires. They also can be used to suppress the enemy's ability to return accurate fire, or to hamper the maneuver of the enemy's assault element. They fix the enemy in position and isolate him by cutting off his avenues of reinforcement. They then shift their fires to the flank opposite the one being assaulted and continue to target automatic weapons providing enemy support, and engage enemy counterattack. M240-series fires also can be used to cover the gap created between the forward element of the friendly assaulting force and terrain covered by indirect fires when the indirect fires are lifted and shifted. On signal, the machine gunners and base-of-fire element displace to join the assault element on the objective.

1144. How is the MK19 and M2 to be used in the offense?

- a. The MK19 and M2/M2A1 can be used as part of the base-of-fire element to assist the friendly assault element by suppressing enemy bunkers and lightly-armored vehicles. Even if ammunition fired from the guns is not powerful enough to destroy enemy vehicles, well-aimed suppressive fire can keep the enemy buttoned up and unable to place fire on friendly assault elements. The MK19 and M2/M2A1 are particularly effective in preventing lightly-armored enemy vehicles from escaping or reinforcing. Both vehicle mounted weapons can fire from a long range stand-off position, or be moved forward with the assault element.

1145. What does the platoon's defense center on?

- a. The platoon's defense centers on its machine guns. The platoon leader sites the rifle squad to protect the machine guns against the assault of a dismounted enemy formation. The machine gun provides the necessary range and volume of fire to cover the squad's front in the defense. F-147. The primary requirement of a suitable machine gun position in the defense is its effectiveness in accomplishing specific missions. The position should be accessible and afford cover and concealment. Machine guns are sited to protect the front, flanks, and rear of occupied portions of defensive positions, and to be mutually supporting. Attacking troops usually seek easily-traveled ground providing cover from fire. Every machine gun should have three positions: primary, alternate, and supplementary. Each of these positions should be chosen by the leader to ensure his sector is covered and machine guns are protected on their flanks. F-148. The leader sites the machine gun to cover the entire sector or to overlap sectors with the other machine guns. The engagement range may extend from more than 1000 meters where the enemy begins his assault to point-blank range. Machine gun targets include enemy automatic weapons and command and control elements. F-149. Machine gun fire is distributed in width and depth in a defensive position. The leader can use machine guns to subject the enemy to increasingly devastating fire from the initial phases of his attack, and to neutralize partial successes the enemy might attain by delivering intense fires in support of

counterattacks. The machine gun's tremendous firepower enables the unit to hold ground. This is what makes it the backbone or framework of the defense.

1146. How is the M249 used in the defense?

- a. In the defense, the M249 adds increased firepower without the addition of manpower. Characteristically, M249s are light, fire rapidly, and have more ammunition than the rifles in the squad they support. Under certain circumstances, the platoon leader may designate the M249 machine gun as a platoon crew-served weapon.

1147. How is the M240 used in the defense?

- a. In the defense, the medium machine gun provides sustained direct fires covering the most likely or most dangerous enemy dismounted avenues of approach. It protects friendly units against the enemy's dismounted close assault. The platoon leader positions his machine guns to concentrate fires in locations where he wants to inflict the most damage to the enemy. He also places them where they can take advantage of grazing enfilade fires, stand-off or maximum engagement range, and best observation of the target area. Machine guns provide overlapping and interlocking fires with adjacent units and cover tactical and protective obstacles with traversing or searching fires. When FPFs are called for, machine guns (aided by M249 fires) place a barrier of fixed, direct fire across the platoon or squad front.
- b. Leaders position machine guns to—
- c. Concentrate fires where they want to kill the enemy.
- d. Fire across the platoon and squad front
- e. Cover obstacles by direct fire.
- f. Tie in with adjacent units.

1148. How are the MK19 and M2 used in the defense?

- a. In the defense, MK19 and M2/M2A1 machine guns may be fired from the vehicle mount or dismounted from the vehicle and mounted on a tripod at a defensive fighting position designed for the weapon system.
- b. These weapons provide sustained direct fires covering the most likely enemy mounted avenue of approach. Their maximum effective range enables them to engage enemy vehicles and equipment at far greater ranges than the platoon's or squads other direct fire weapons.
- c. When mounted on the tripod, the M2/M2A1 and MK19 are highly accurate to their maximum effective range and predetermined fires can be planned for likely high pay off targets. The tradeoff is these weapon systems are relatively heavy, and take more time to move.
- d. These guns are not as accurate when mounted on vehicles as they are when fired from the tripod-mounted system. However, they are maneuvered easily to alternate firing locations should the need arise.

1149. What are SLMs used by the platoon and squad?

- a. SLM include the M136A1 AT4 combined space (AT4CS), M136 AT4; the M72A2/A3 light antitank weapon (LAW), improved M72A4/5/6/7 LAW; and M141 BDM. The M141 BDM also has been referred to as the shoulder-launched

multipurpose assault weapon-disposable (SMAW-D). Table G-1 lists select SLM specifications.

1150. What are the characteristics of SLMs?
- All SLM are lightweight, self-contained, single-shot, disposable weapons consisting of unguided free flight, fin-stabilized, rocket-type cartridges packed in expendable, telescoping launchers (except the M 136 AT4/AT4CS which does not telescope) also serve as storage containers. The only requirement for their care is a visual inspection. SLM can withstand extreme weather and environmental conditions, including arctic, tropical, and desert climates.
1151. How do SLMs increase the combat power of a unit?
- SLM increase the lethality and survivability of the Infantryman and provide him a direct fire capability to defeat enemy personnel within armored platforms. BDM provides the Soldier a direct fire capability to defeat enemy personnel located within field fortifications, bunkers, caves, masonry structures, and lightly armed vehicles and to suppress enemy personnel in lightly armored vehicles.
1152. How does the individual soldier use a SLM?
- The individual Soldier will use SLM to engage threat combatants at close ranges, across the street or from one building to another. The Soldier may employ SLM as a member of a support-by-fire element to incapacitate threat forces threatening the assault element. When the assault element clears a building, the leader may reposition the SLM gunner inside to engage a potential counterattack force.
1153. What are the characteristics of the M136 AT4?
- The M136 AT4 is a lightweight, self-contained, SLM designed for use against the improved armor of light-armored vehicles. It provides lethal fire against light-armored vehicles, and has some effect on most enemy field fortifications.
  - The M136A1 AT4CS is similar to the M136 AT4, but uses a different propulsion system. This system enables the M136A1 AT4CS to be fired from an enclosure.
  - The M136 AT4 and M136A1 AT4CS is a round of ammunition with an integral, rocket-type cartridge. The cartridge consists of a fin assembly with tracer element; a point detonating fuze; and a HEAT warhead (See figures G-1 and G-2, both page G-4.)
1154. What are the characteristics of the M72 LAW?
- The M72 LAWs used by Infantry platoons and squads today are the M72A3 and M72A7. The M72 series are available as a contingency by request. They are lightweight and self-contained SLM consisting of a rocket packed in a launcher. (See figures G-3 through G-5, pages G-5 through G-7.) They are man-portable, and may be fired from either shoulder. The launcher, which consists of two tubes, one inside the other, serves as a watertight packing container of the rocket and houses a percussion-type firing mechanism activating the rocket.
1155. What are the characteristics of the M72A3 LAW?
- The M72A3 contains a nonadjustable propelling charge and a 66-mm rocket. Every M72A3 has an integral HEAT warhead in the rocket's head (or body) section. (See figure G-4, page G-6.) Although the M72A3 mainly is employed as

an antiarmor weapon, it may be used with limited success against secondary targets such as gun emplacements, pillboxes, buildings, or light vehicles.

1156. What are the characteristics of the M72A7 LAW?

- a. The M72A7 is the improved LAW currently employed by Infantry platoons and squads. It is a compact, lightweight, single-shot, disposable weapon optimized to defeat lightly armored vehicles at close combat ranges. (See figure G-5.) The M72A7 offers enhanced capabilities beyond the original M72-series. The Improved M72 consists of a 66-mm unguided rocket prepackaged at the factory in a telescoping, throwaway launcher. The system performance improvements include a higher velocity rocket motor extending the weapon effective range, increased lethality warhead, lower and more consistent trigger release force, rifle-type sight system, and better overall system reliability and safety. The weapon contains a 66-mm rocket and an integral HEAT warhead. The warhead is designed to penetrate 150 millimeters of homogenous armor and is optimized for maximum fragmentation behind light armor, Infantry fighting vehicles (IFV), and urban walls.

1157. What are the characteristics of the M141 BDM?

- a. The M141 BDM was developed to defeat enemy bunkers and field fortifications. (See figure G-6.) The M141 BDM is a disposable, lightweight, self-contained, manportable, shoulder-fired, HE multipurpose munitions.
- b. The M141 BDM utilizes the 83-mm HEDP assault rocket. (See figure G-7, page G-8.) The 83-mm HEDP assault rocket warhead consists of a dual mode fuze, and 2.38 pounds of A-3 explosive. G-14. Warhead function, in quick or delay mode, is determined automatically by the fuze when the rocket impacts a target. The M141 BDM is fired at hard or soft targets without selection steps required by the gunner. This automatic feature assures the kill mechanism is employed. Warhead detonation is instantaneous when impacting a hard target, such as a brick or concrete wall or an armored vehicle. Impact with a softer target, such as a sandbagged bunker, results in a fuze time delay permitting the rocket to penetrate into the target before warhead detonation.
- c. The M141 BDM can destroy bunkers, but is not optimized to kill the enemy soldiers within masonry structures in urban terrain or armored vehicles. The M141 BDM can penetrate masonry walls, but multiple rounds may be necessary to deliver sufficient lethality against enemy personnel behind the walls. G-16. The M141 BDM has been used with great success in destroying personnel and equipment in enemy bunkers, field fortifications, and caves in recent operations.

1158. What are CCMS?

- a. CCMS are used primarily to defeat main battle tanks and other armored combat vehicles. In the current force, this category of weapons includes the TOW and Javelin. The TOW and Javelin provide overmatch antitank fires during the assault and provide extended range capability for engaging armor during both offensive and defensive missions. These systems have a moderate capability against bunkers, buildings, and other fortified targets commonly found during combat in

urban areas. The TOW's Bunker Buster (BB) round is capable of destroying the majority of urban targets.

1159. What are the characteristics of the Javelin?
- The Javelin is a fire-and-forget, shoulder-fired, man-portable CCMS consisting of a reusable M98A1 (Block 0) and the improved M98A2 (Block 1), CLU and a round. (See figure G-8.) The CLU houses the daysight, night vision sight (NVS), controls, and indicators. The round consists of the missile, the launch tube assembly (LTA), and battery coolant unit (BCU). The LTA serves as the launch platform and carrying container of the missile. (Refer to TC 3-22.37 for more information.)
1160. What is the role of the Javelin CCMS?
- The Javelin CCMS' primary role is to destroy enemy armored vehicles out to 2000 meters with the M98A1 and 2500 meters with the M98A2. The Javelin can be employed in a secondary role of providing FS against point targets such as bunkers and crew-served weapons positions. In addition, the Javelin CLU can be used alone as an aided vision device for reconnaissance, security operations, and surveillance. When BFV are part of a combined-arms team, the Javelin becomes a secondary antiarmor weapons system. It supports the fires of tanks and TOWs, covers secondary armor avenues of approach, and provides observation posts with an antiarmor capability. The Javelin gunner should be able to engage up to three targets in two minutes, making him effective against armor threat.
1161. What is the reusable portion of the Javelin system?
- The M98A1 and M98A2 CLU is the reusable portion of the Javelin system. It contains the controls and indicators. The CLU provides increased utility to the Infantry platoon and weapons squad by allowing accurate surveillance out to 2.5 plus kilometers in both day and night. CLUs have been used to spot and destroy enemy snipers in hidden positions more than 1000 meters away. G-21. Tables G-2 through G-4 (pages G-9 through G-11) list the Javelin's capabilities and features, the physical characteristics of the CLU, and physical characteristics of the round.
1162. What are the components of the Javelin missile?
- The Javelin missile consists of the guidance section; the midbody section, the warhead, the propulsion section, and control actuator section. A discussion of the guidance section and warhead follows.
  - The guidance section provides target tracking and flight control signals. It is the forward section of the missile and includes the seeker head section and guidance electronics unit.
  - The Javelin missile uses a dual-charged warhead (see figure G-9) containing a precursor charge and main charge:
  - Precursor charge. The precursor charge is an HE AT shaped charge. Its purpose is to cause reactive armor on the target to detonate before the main charge reaches the armor. Once the reactive armor is penetrated, the target's main hull is exposed to the warhead's main charge. If the target is not equipped with

reactive armor, the precursor provides additional explosives to penetrate the main armor.

- e. Main charge. The main charge is the second charge of a dual-charge warhead and is also an HE-shaped charge. The primary warhead charge is designed to penetrate the target's main armor to achieve a target kill.
1163. What are the components of the TOW weapon system?
- a. The TOW weapon system consists of the Improved Target Acquisition System (ITAS) launcher, which has tracking, control capabilities, and missile, which is encased in a launch container. The launcher is equipped with self-contained, replaceable units.
  - b. The TOW is designed to destroy enemy tanks, fortifications, and other materiel targets. Its LOS launcher initiates, tracks, and controls the missile's flight through command-link wire-transmitted guidance signals. It can be employed in all weather conditions as long as the gunner can see the target through the ITAS. The TOW also provides a long-range assault capability against heavily fortified bunkers, pillboxes, and gun emplacements.
  - c. The current versions of the TOW missile can destroy targets at a minimum range of 65 meters and a maximum range of 3750 meters. The TOW 2B missile can destroy targets at a minimum range of 200 meters and a maximum range of 3750 meters. TOW missiles in development are being produced to engage enemy targets out to 4500 meters.
1164. What are some of the different missile types of the TOW CCMS?
- a. The TOW CCMS consists of multiple configurations with numerous types of missiles. These configurations mainly consist of minor modified work orders transparent to the operator and are continually updated. All configurations use the same basic airframe, aerodynamic control system, command-link wire, and missile electronics designs. The current missile types are listed below:
  - b. Improved TOW (ITOW). The ITOW missile has an improved five-inch warhead from the original TOW missile including extended probes for greater standoff and penetration. It can destroy targets at a minimum range of 65 meters and a maximum range of 3750 meters.
  - c. TOW 2. The TOW 2 missile has a full-caliber six-inch warhead including an extended probe. In addition to the infrared radiator of the ITOW missile, TOW 2 has a second infrared radiator to provide hardened system performance against battlefield obscurants and countermeasures. The second radiator is called the thermal beacon and provides link compatibility with the electro-optical infrared nightsight, which is part of the TOW 2 launcher system.
  - d. TOW 2A. The TOW 2A adds a small explosive charge in the tip of the extended probe causing enemy reactive armor to detonate prematurely, thus allowing the TOW 2A's warhead to penetrate the main armor.
  - e. TOW 2B. The TOW 2B has an entirely different warhead and kill mechanism than the previous TOW missiles. It is a top-attack missile (fly over/shoot down) defeating enemy armor at its most vulnerable point the top deck of the turret and hull. The TOW 2B has a tandem warhead firing two explosively formed projectiles

down through the thin upper deck armor of the enemy vehicle. The gunner tracks the target the same as other TOW missile with the crosshairs on center mass, but the missile automatically flies 2.25 meters above LOS. When the missile senses it's directly above the target (by means of the target's shape and magnetic field), it automatically fires its warhead. The TOW 2B missile can destroy targets at a minimum range of 288 meters when fired from the ground mount and 200 meters when fired from the HMMWV or BFV. The TOW 2B has a maximum range of 3750 meters whether ground- or vehicle-mounted.

- f. TOW 2B GEN 1. The TOW 2B GEN 1 is similar to the TOW 2B but includes the addition of the GEN 1 Counter Active Protection System (CAPS), which is used to defeat enemy
  - g. active protection systems.
  - h. TOW 2B Aero. The TOW 2B Aero is an extended range version of the TOW 2B missile with an aerodynamic nose and has an effective range of 4500 meters. (See figure G-10, page G-16.) This longer range (compared to the 3750 meter range of the previous TOW missiles) allows a TOW crew to fire well beyond the weapons range of its targeted vehicle.
  - i. TOW 2B Aero With GEN 1, 2, and 3A CAPS. These versions of TOW 2B Aero have the addition of different generations of CAPS to defeat an enemy target's active protection system, allowing the TOW 2B missile to engage armored vehicles up to 4500 meters. (See figure G-10, page G-16.)
  - j. TOW BB. The TOW BB replaces the TOW 2A warhead with a fragmenting bulk charge for nonarmor targets. (See figure G-11.) The TOW BB has a range of 3750 meters. Its missile is capable of defeating bunkers, creating a lane through masonry walls, and engaging targets in support of urban operations.
1165. What is the objective of the Army's warfighting doctrine?
- a. The objective of the Army's warfighting doctrine is to concentrate decisive combat power at the right time and place, by massing fires rather than by massing forces, and by presenting the enemy with multiple threats. This section discusses SLM and CCMS employment considerations. A lethal mix of CCMS and SLM provide the Infantry unit with the flexibility to employ multiple systems designed to deliver maximum direct fire lethality and destroy enemy formations at both long range and in close combat. At close combat range (15-300 meters), SLM provide Soldiers with the ability to deliver direct fire lethality at close proximity to the enemy. At extended range (300-4500 meters), a mix of Javelin and TOW provides the Infantry leader with overwhelming combat overmatch. These weapons serve as vital components by applying overlapping and interlocking fires to achieve synergy and mutual support for his maneuver force.
1166. How do complex terrain and urban environments alter the nature of close combat?
- a. Operations in complex terrain and urban environments alter the basic nature of close combat. History tells us engagements are more frequent and occur more rapidly when engagement ranges are close. Studies and historical analyses have shown only five percent of all targets are more than 100 meters away. About 90 percent of all targets are located 50 meters or less from the identifying Soldier.

Few personnel targets will be visible beyond 50 meters. Engagements usually occur at 35 meters or less.

1167. How are SLMs to be used in urban environments?
- Soldiers employ SLM in the short, direct fire, close-quarter engagement range of close combat. Their use is preferable in urban areas where other direct fire (M1-series Abrams tank and M2-series BFV) and indirect fire systems (artillery, mortars) and CAS are incapable of operating due to risks of fratricide and collateral damage. In close combat, Soldiers employ SLM against a wide variety of targets. These include: personnel armed with individual and crew-served weapons fighting from armored platforms (T-72s, BTRs, BRDMs); light armored personnel carriers and Infantry fighting vehicles (BMP1-3 and M113); modified personnel/Infantry vehicles; lightly armed vehicles; and enemy in fortified positions, behind walls, inside caves and masonry buildings, and within earthen bunkers.
1168. What are the purpose of CCMS teams?
- CCMS teams provide overwatching antitank fires during the attack of a built-up area. They are best employed in these types of areas along major thoroughfares and in upper floors of buildings or roofs to attain long-range fields of fire. Because the minimum engagement distance limits firing opportunities in the confines of densely built-up areas, CCMS may not be the weapon of choice in the urban environment. Urban area hazards include, fires caused by both friendly and enemy forces may cause target acquisition and lock-on problems, clutter on the battlefield may cause lock-on problems, and LOS communications limited by structures. CCMS unique flight path forces the gunner to think in three dimensions. Other urban environment hazards include overhead obstacles such as street signs, light poles, and wires, which could impede the missile's flight path.
1169. How does the M141 BDM improve the capabilities of the infantry unit?
- The current inventory of the M141 BDM provides the Infantry platoon and squad the capability to incapacitate personnel within earth and timber bunkers, masonry buildings, and light armored vehicles. However, neither system is fully capable of fire from-enclosure.
  - SLM can be fired safely from an enclosure to incapacitate personnel within earth and timber bunkers, masonry buildings, and light armored vehicles currently are being developed to increase the lethality, survivability, and mobility of the SLM gunner.
1170. What was the M141 BDM designed for?
- G-41. The M141 BDM was designed to better enhance the destruction of field fortifications and buildings. (See table G-6, page G-20.) The M141 BDM contains a highexplosive dual purpose (HEDP) round with a dual-mode fuze that automatically adjusts for the type of target on impact. For soft targets, such as sandbagged bunkers, the M141 BDM warhead automatically adjusts to delayed mode and hits the target with high kinetic energy. This energy propels the

warhead through the barrier and into the fortification or building, where the fuze detonates the warhead and causes greater damage.

1171. What are considerations for the urban employment of CCMS?
- a. Urban engagement considerations for CCMS include engagement distance, thermal crossover, back blast, weapon penetration, and breaching structural walls. Details follow. TOW systems always should seek to engage at maximum range. If within 1000 meters of an enemy, the flight time of the TOW missile likely will be greater than the flight time of a main gun tank round:
  - b. Engagement distance. The Javelin missile has a minimum engagement distance (150 meters in the attack mode and 65 meters in the direct attack mode), which limits its use in built-up areas. The TOW 2B has a minimum range of 200 meters and a maximum range of 3750, which limits its use in built-up areas.
  - c. Crossover. Sometimes the Javelin seeker or TOW round will not be able to distinguish between the background and target because the two have the same temperature (crossover).
  - d. Time. When a gunner comes across a target of opportunity, he may not be able to take advantage of it. The cool down time of the Javelin's NVS is 2.5 to 3.5 minutes. Javelin seeker cool down takes about 10 seconds. Once the BCU is activated, the gunner has a maximum of four minutes to engage the target before the battery coolant unit is depleted.
  - e. Back blast. The soft launch capability of the Javelin enables the gunner to fire from inside buildings because there is little overpressure or flying debris.
  - f. Weapon penetration. The dual-charge Javelin warhead penetrates typical urban targets. The direct attack mode is selected when engaging targets in a building. Enemy positions or bunkers in the open closer than 150 meters are engaged using the direct attack mode. Positions in the open farther than 150 meters are engaged using either the top or direct attack mode, depending on the situation.
  - g. Breaching structural walls. The Javelin and TOW (except the TOW BB) are not effective when breaching structural walls. ATGMs are not designed to breach structural walls. All CCMS are designed to produce a small hole, penetrate armor, and deliver the explosive charge. Breaching calls for the creation of a large hole. CCMS are better used against armored vehicles or the destruction of enemy fortified fighting positions.
1172. How has vehicle armor improved in response to the development of AT weaponry?
- a. In the past decade, there has been a revolution in armor technology. Research and new developments have come from Europe, the United States, and Israel. These improvements also are becoming much more common in Third World armies. In addition, many older tanks and other armored fighting vehicles are being retrofitted with improved armor protection. These advanced armor configurations improve the vehicles' survivability against all weapons. They are designed specifically to protect against HEAT warheads and essentially fall into four categories: reactive, laminated, composite, and appliqué. Improved armor types include the following:

- b. Reactive armor. Reactive armor comes in several varieties, but the principle is essentially the same for all. The armor consists of blocks of explosives sandwiched between two metal plates and bolted on the outside of the vehicle. Small-arms and artillery shrapnel will not set off the blocks. However, when a HEAT round strikes the block, the explosive ignites and blows outward. The blast and moving steel plates disperse and deflect the jet of the HEAT warhead, dramatically reducing its ability to penetrate armor.
  - c. Laminated armor. Laminated armor consists of flat layers of steel armor plates with layers of ceramics, fiberglass, or other nonmetallic materials in between. This armor is highly effective against all types of weapons, but is difficult and expensive to manufacture. Vehicles with laminated armor are characterized by flat, slab sides, such as on the M1-series Abrams tank and the German Leopard II.
  - d. Composite armor. Composite armor consists of a nonmetallic core (usually some kind of ceramic) around which the rest of the steel of the hull or the turret is molded. This is much more effective than conventional steel armor against all types of weapons, but less so than laminated armor.
  - e. Appliqué armor. Appliqué armor is essentially extra plates mounted or welded on top of the hull or turret of a vehicle. It can be made of any material, but is frequently made of ceramic or laminated materials. Like reactive armor, appliqué armor is an easy and cost-effective way of improving the protection of older vehicles.
1173. Where is the bulk of the armor placed on armored vehicles? What can be used to reduce the effectiveness of armored vehicles?
- a. Because they are designed mainly for offense against other armored vehicles (see figure G-12), armored vehicles usually have their heaviest armor in front. All vehicles are vulnerable to repeated hits on their flanks and rear, though the flank offers the largest possible target. Shooters always should aim center of mass to increase the probability of a hit. The older the vehicle model, the less protection it has against SLM and CCMS. Newer versions of older vehicle models may use bolt-on (appliqué) armor to improve their survivability. Reactive armor usually covers the forward-facing portions and sides of the vehicle and can defeat shaped-charge weapons such as the SLM. When reactive armor detonates, it disperses metal fragments to 200 meters. SLM cause only a small entry hole in an armored vehicle target, though some fragmentation or spall may occur. Natural or manmade obstacles can be used to force the armored vehicle to slow, stop, or change direction. This pause enables the shooter to achieve a first-round hit. If he does not achieve a catastrophic kill on the first round, he or another shooter must be ready to engage the target vehicle immediately with another round. G-44. The white area in figure G-13 shows the most favorable direction of attack when the turret is facing to the front. The gray area shows the vehicle's PDF and observation when the turret is facing to the front). Volley fires can degrade the additional protection appliqué and reactive armors provide to the target vehicle greatly.

1174. What is required when AT weapons are used to defeat armored vehicles?
- When Soldiers employ the M136 AT4, M136A1 AT4CS and M72-series LAW to defeat threat armored vehicles, it requires Soldiers to engage threat vehicles using single or paired shots. Gunners require positions allowing engagement against the flank or rear of the target vehicles. They must seek covered and concealed positions from where targets can be engaged. The M136A1 AT4CS is the only SLM that can be fired safely from within an enclosure because of its countermass propulsion system. TM 3-23.25 advises firing the M136 AT4 and M141 BDM from an enclosure under combat conditions only when no other tactical option exists due to the risk of both auditory and nonauditory injury.
1175. What are the capabilities of SLM warheads?
- SLM warheads have excellent armor penetration ability and lethal after-armor effects (especially the M136 AT4, M136A1 AT4CS and M72A7). The extremely destructive shaped-charge explosives can penetrate more than 14 inches (35.6 centimeters) of rolled homogeneous armor. Types of warhead armor effects follow and are illustrated in figure G-14 (page G-26):
  - Impact. The nose cone crushes; the impact sensor activates the fuze.
  - Ignition. The fuze element activates the electric detonator. The booster detonates, initiating the main charge.
  - Penetration. The main charge fires and forces the warhead body liner into a directional gas jet penetrating armor plate.
  - Spalling (after-armor effects). The projectile fragments and incendiary effects produce blinding light and highly destructive results.
1176. What AT platform is more effective against light armored vehicles?
- The M72-series LAW proves more effective against light-armored vehicles. The M136 AT4 proves more effective against armored vehicles. Nonarmored vehicles such as trucks, cars, and boats are considered soft targets. Firing along their length offers the greatest chance of a kill, because this type of shot is most likely to hit their engine block or fuel tank. Effects of different munitions on vehicle types are listed in table G-8.
1177. What are the four engagement methods for SLMs?
- The four engagement methods for SLM include single, sequence, pair, and volley firing. The leader evaluates the situation on the ground to determine which of these methods to use. Regardless of whether they are used singly or in combination, communications are needed as well. The methods of engagement are rehearsed in accordance with unit SOP.
1178. What are considerations for a lone soldier engagement with an SLM?
- A single Soldier with one SLM may engage an armored vehicle, but this is not the preferred method of engagement. Several SLM normally are required to kill an armored vehicle. A single gunner firing one round must hit a vital part of the target in order to do damage. (See figure G-15.) A single shooter can engage targets out to 225 meters with the LAW, or 300 meters with the M136 AT4 (when he knows the actual range). A single shooter, equipped with two or more SLM prepared for firing, engages the target. After engaging with the first round and

observing the impact, the shooter adjusts his point of aim. He then engages with another round until he destroys the target or runs out of rounds.

1179. How do two or more shooters engage a single target?
- Two or more shooters, equipped with two or more SLM prepared for firing, engage a single target. Before firing, the first shooter informs the others of the estimated speed and distance to the target. If the impact of his round proves his estimate to be correct, the other shooters engage the target until it is destroyed. If the impact of the round proves his estimate to be incorrect, the second shooter informs the others of his estimate, and he engages the target. This continues until the target is destroyed or all rounds are expended.
  - Two or more shooters can engage a single target when the range is known. These shooters engage the target at the same time on a prearranged signal such as a command, whistle, mine, or TRP. This can be the most effective means of engagement as it places the most possible rounds on one target at one time, increasing the possibility of a kill.
1180. Why must TOW gunners be familiar with all TOW missile types?
- TOW crews can expect to be issued a mix of TOW missile types on the battlefield, with widely varying capabilities. Gunners and leaders must be familiar with the different missile types and their respective capabilities. The proper type of missile must be chosen for each type of target. (See table G-9.) G-57. TOW crews must strive harder than ever to find positions where they can engage enemy vehicles from the flank. Modern tanks with reactive armor have become increasingly difficult to kill from the front.
1181. What are considerations for the use of AT weapons in antiarmor ambushes?
- Antiarmor ambushes usually are conducted to destroy small groups of armored vehicles, force the enemy to move slowly and cautiously, or force the enemy into a choke point. Units conducting an antiarmor ambush can use Javelins or TOWs for this purpose. The Javelin and TOW have a slow rate of fire, so other weapons systems must be prepared to engage the vehicles while the Javelin gunners attach the CLU to new rounds or the TOW gunners load new rounds. The Javelin's 2000-meter range and TOW's 3750-meter range allow flexibility in choosing ambush positions. In addition to fires into the kill zones, the Javelin and TOW can be employed in a security role to guard high-speed avenues of approach, to slow or stop enemy reinforcements, or to destroy vehicles attempting to flee the kill zone.
1182. How do CCMS contribute to the offense?
- CCMS contribute to the offense by providing long-range fires destroying enemy armor and protect the force from armored counterattacks. In the absence of armored targets, CCMS can engage enemy fortifications and hovering helicopters. CCMS normally are used in a support-by-fire role during the offense. The primary consideration for such employment is the availability of appropriate fields of fire and armored threat. CCMS crews can protect flanks against armored threats and also can provide overwatch for unit movement.
1183. What are considerations for planning antiarmor ambushes?

- a. During planning, the leader considers the enemy armor threat, then positions antiarmor weapons accordingly to cover armor avenues of approach. He also considers the fields of fire, tracking time, and minimum engagement distance of each weapon. The section leader or squad leader selects a primary position and sector of fire for each antiarmor weapon. He also picks alternate and supplementary positions for them. Each position should allow flank fire and have cover and concealment. The leader should integrate the ITAS into his limited visibility security and observation plan. The squad leader selects the fighting position and assigns the sector of fire. Considering the fundamentals of antiarmor employment will improve the crew's survivability greatly. ITAS crews must coordinate with adjacent units to ensure security. The TOW's 3750- meter maximum range makes it difficult for the enemy to engage the crew with direct fire, which forces the enemy to deploy earlier than intended. The gunner prepares a range card for his primary position. If time permits, he also prepares them for his alternate and supplementary positions.
1184. How can reserve forces with SLMs be employed?
- a. Reserve forces armed with SLM may be employed to assist counterattacks to regain essential positions. They also are used to block enemy penetrations, to meet unexpected enemy thrusts, and to provide support by fire to endangered friendly units during disengagements and withdrawals. In the event defensive positions are in danger of being overrun by enemy armored vehicles, SLM may be used against armored vehicles and lightly armored vehicles posing an immediate threat, including light tanks. The maximum range provides leaders with greater flexibility in positioning each round and provides a means of achieving overlapping sectors of fire for increased survivability.
1185. What is the only SLM that is safe for use in enclosures?
- a. The M136A1 AT4CS is the only SLM proven safe for firing from enclosures; however, enclosures must meet the following specifications. (See figure G-31, page G-42.)
  - b. The inside area must be a minimum of 12 feet wide and 15 feet long (about 3.5 meters wide and 4.5 meters long).
  - c. The ceiling must be a minimum of seven feet (2.1 meters) high.
  - d. The window opening must be a minimum of 36 inches wide and 36 inches long (one meter wide and one meter long).
  - e. The door opening must be a minimum of 36 inches wide and 72 inches long (one meter wide and two meters long).
  - f. The structure should be of significant construction to withstand the munitions back blast.
1186. What requirements need to be met when firing SLMs indoors?
- a. The following requirements must be followed when firing indoors:
  - b. Fire in the standing position only.
  - c. Cover or protect all equipment (example, small arms, radio set) in the room.
  - d. Remove any loose objects which might be thrown when firing from directly behind the launcher.

- e. Keep stuffed furniture (example mattresses, cushions, pillows), to absorb pressure.
  - f. Hang a blanket 1.5 to two meters behind the launcher and 15 to 30 centimeters from the rear wall. This considerably reduces sound pressure.
  - g. Open all windows and doors in room.
  - h. Do not allow the angle of the launcher to exceed 20 degrees of depression from the horizontal plane. Do not fire the munitions at any angle of elevation. (See figure G-32.) Do not allow the angle of the launcher to exceed 45 degrees left or right of the vertical plane.
  - i. Wear combat arms earplugs.
  - j. Fire the munitions no more than 10 centimeters (four inches) from a door or window frame. (See figure G-32.)
1187. What SLM platform can be fired from the Infantry fighting position?
- a. The M72-series LAW, M136 AT4, and M141 BDM can be fired from the standard Infantry fighting position. However, to increase accuracy and reduce danger to friendly Soldiers, the area to the rear of the firing position must have no walls, large trees, or other obstructions within five meters (5 1/2 yards). Ensuring the absence of such obstructions avoids deflection of weapon back blast onto the shooter or into the position:
  - b. Individual Infantry fighting position. The Soldier must lean against the rear wall and ensure the venturi or the rear of the weapon protrudes past the rear of the position.
  - c. Two-Soldier Infantry fighting position. Nonfiring personnel must remain clear of the back blast area. These positions should be constructed and sited so none are
  - d. located in another position's back blast danger zone.
  - e. Modified firing position. A modified firing position may be constructed to the side of the two-Soldier fighting position. Firing from a modified position reduces the possibility of injury to the shooter or the other Soldier in the fighting position, while still offering the shooter protection from enemy return fire.
1188. What factors should be considered before engaging targets with a TOW missile?
- a. Some conditions may limit the firing and engagement capabilities of the TOW. The following information should be considered before engaging targets:
  - b. Firing over bodies of water. Maximum and limited range firing over water varies by missile type. If the range is less than 1100 meters, the missile's range is not affected. However, if it is wider than 1100 meters it can reduce the range of the TOW.
  - c. A TOW position should be as high above and as far back from the water as the tactical situation allows. The squad or section leader should analyze his sector as soon as the position is occupied to determine if water will affect the employment of the TOW. Signals being sent through the command-link wires are shorted out when a large amount of wire is submerged in water.
  - d. Firing over electrical lines. If the command-link wires make contact with a live high-voltage power line, personnel can be injured or control of the missile could be lost. The launcher electronics also may be damaged. In addition to power

lines, other high-voltage sources include street cars, electric train ways, and some moving target trolleys on training ranges.

- e. Firing in windy conditions. Gusty, flanking, or quartering winds can cause the launch tube to vibrate and spoil the tracking performance. The effect is similar to driving in a strong crosswind. Strong winds can move the missile around during flight, but as long as the crosshairs are kept on the center mass of the target, the weapon system can compensate for wind effects.
  - f. Firing through obscurants and area fires. Smoke can obscure the LOS and hide the target when using the daysight tracker. A smooth tracking rate should be maintained as the target disappears into an obscurant cloud so the missile will still be on target or close as the vehicle goes out the other side of the obscurants cloud. (This technique should be practiced during field tracking exercises.) A fire can burn through the command-link wire, causing loss of control of the missile.
1189. What are the four type of obstacles on the battlefield?
- a. There are four general types of obstacles. Each type is determined by its distinct battlefield purpose and overall concept of the operation:
  - b. Protective obstacles are employed to protect Soldiers, equipment, supplies, and facilities from enemy attacks or other threats.
  - c. Tactical obstacles directly affect the opponent's maneuver in a way giving the
  - d. defending force a positional advantage.
  - e. Nuisance obstacles impose caution on opposing forces. They disrupt, delay, and sometimes weaken or destroy follow-on echelons.
  - f. Phony obstacles deceive the attacking force concerning the exact location of real obstacles. They cause the attacker to question his decision to breach and may cause him to expend his reduction assets wastefully.
  - g. Phony minefields are used to degrade enemy mobility and preserve-friendly
  - h. Mobility.
  - i. Intended to simulate live minefields and deceive the enemy, they are used when lack of time, personnel, or materiel prevents use of actual mines.
  - j. They also may be used as gaps in live minefields.
  - k. A phony minefield must look like a live minefield, so Soldiers must bury metallic objects or make the ground look as though objects are buried.
1190. What are the main categories of obstacles?
- a. Obstacles are employed by both friendly and enemy forces. The main categories of obstacles are:
  - b. Existing obstacles.
  - c. Reinforcing obstacles.
1191. What are the characteristics of existing obstacles?
- a. Existing obstacles are those natural or cultural restrictions to movement that are part of the terrain. Existing obstacles can be reinforced into more obstacles. They normally are in defilade from enemy observation (located where observation and fires can prevent the opposing force from breaching them), and are difficult to bypass. Existing obstacles include two types, natural and cultural. The following are examples: (Refer to ATP 3-34.22 for more information.)

- b. Natural.
  - c. Swamps.
  - d. Dense forests.
  - e. Deep, steep-sloped ravines.
  - f. Rivers.
  - g. Streams.
  - h. Hills or mountains with excessive slopes.
  - i. Cultural.
  - j. Urban areas.
  - k. Quarries.
  - l. Railroad beds.
  - m. Built-up or elevated roads.
  - n. Potential storage sites.
1192. How are reinforcing obstacles used?
- a. Reinforcing obstacles are used by both friendly and enemy forces to tie together, anchor, strengthen, and extend existing obstacles. Careful evaluation of the terrain to determine its existing obstructing or canalizing effect is required to achieve maximum use of reinforcing obstacles. Installation time and manpower usually are the two most important factors. The reinforcing obstacles are—
  - b. Land mines.
  - c. Constructed obstacles.
  - d. Demolition obstacles.
  - e. Improvised obstacles.
1193. What is a land mine? How is a land mine used?
- a. Land mine is a munition on or near the ground or other surface area that is designed to be exploded by the presence, proximity, or contact of a person or vehicle. Land mines can be employed in quantities within a specific area to form a minefield, or they can be used individually to reinforce nonexplosive obstacles. Land mines fall into the following two general categories: persistent and nonpersistent. Persistent means they are not capable of self-destructing or self-deactivating. Nonpersistent means they are capable of selfdestructing or self-deactivating.
1194. What are examples of constructed obstacles?
- a. Ditches. Ditches across roads and trails are obstacles. Large ditches in open areas require engineer equipment.
  - b. Log hurdles. Log hurdles act as "speed bumps" on roads. They are installed easily and are most effective when used in conjunction with other obstacles.
  - c. Log cribs. A log crib is constructed of logs, dirt, and rocks. The logs are used to make rectangular or triangular cribs filled with dirt and rock. These are used to block narrow roads and defiles. Unless substantially built, log cribs will not stop tanks.
  - d. Log posts. Log posts embedded in the road and employed in-depth can stop tracked vehicles. If they are not high enough to be pushed out of the way, posts

can cause a tracked vehicle to throw a track if it tries to climb over. If employed with wire and mines, they also can slow enemy Infantry.

- e. Wire entanglements. Wire entanglements impede the movement of dismounted enemy Infantry, and in some cases, tracked and wheeled vehicles. Triple standard concertina is a common wire obstacle. However, there are other types, such as double apron, tanglefoot, and general-purpose barbed-tape obstacles. Figures H-2a through H-2c (pages H-5 through H-6) illustrate examples of wire and log obstacles. The materials used in constructing wire entanglements are relatively lightweight (compared to other obstacles) and inexpensive, considering the protection they afford.

1195. How do units create demolition obstacles?

- a. Units create demolition obstacles by detonating explosives. ATP 3-34.20 covers demolitions in detail. There are many uses for demolitions, but some examples are road craters and abatis.
- b. Road craters are obstacles on roads or trails if the areas on the flanks of the crater are tied into steep slopes or mined areas. Road craters can compel the opposing force to use earthmoving equipment, blade tanks, or mechanical bridging assets. Abatis are only effective if large enough trees, telephone poles, or other similar objects are available to stop the opposing force. An abatis is an obstacle created by cutting down trees so their tops are crisscrossed and pointing toward the expected enemy direction. It is most effective for stopping vehicles in a forest or narrow movement routes. This obstacle may be reinforced with claymore or non-persistent mines.

1196. How are improvised obstacles made?

- a. Improvised obstacles are designed by Soldiers and leaders with imagination and ingenuity when using available materiel and other resources. An example of obstacles in urban terrain is shown in figure H-3. Improvised obstacles include the following:
- b. Rubble. Rubble from selected masonry structures and buildings in a built-up area will limit movement through an area and provide fortified fighting positions.
- c. Battle damage. Damaged vehicle hulks or other debris are used as roadblocks.
- d. Flooding. Flooded areas are created by opening floodgates or breaching levees.

1197. What is suppression?

- a. Suppression is a tactical task used to employ direct or indirect fires or an electronic attack on enemy personnel, weapons, or equipment to prevent or degrade enemy fires and observation of friendly forces. The purpose of suppression during breaching operations is to protect forces reducing and maneuvering through an obstacle. Suppression is a missioncritical task performed during breaching operation. Suppression generally triggers the rest of the actions at the obstacle. Fire control measures ensure all fires are synchronized with other actions at the obstacle. Although suppressing the enemy overwatching the obstacle is the mission of the support force, the breach force should provide additional suppression against an enemy the supporting force cannot suppress.

1198. What is the purpose of obscuration?
- Obscuration must be employed to protect forces conducting obstacle reduction and passage of assault forces. Obscuration hampers enemy observation and target acquisition by concealing friendly activities and movement. Obscuration smoke deployed on or near the enemy's position minimizes its vision. Screening obscurants employed between the reduction area and the enemy conceals movement and reduction activities. It also degrades enemy ground and aerial observations. Obscuration must be planned carefully to provide maximum degradation of enemy observation and fires, but it must not degrade friendly fires and control significantly.
1199. Why do friendly forces secure reduction areas?
- Friendly forces secure reduction areas to prevent the enemy from interfering with obstacle reduction and passage of the assault force through lanes created during the reduction. Security must be effective against outposts and fighting positions near the obstacle and against overwatching units as necessary. The far side of the obstacle must be secured by fires or be occupied before attempting efforts to reduce the obstacle. The attacking unit's higher headquarters is responsible for isolating the breach area by fixing adjacent units, attacking enemy reserves in-depth, and providing counterfire support. Identifying the extent of the enemy's defenses is critical before selecting the appropriate technique to secure the point of breach. If the enemy controls the point of breach and cannot be suppressed adequately, the force must secure the point of breach before it can reduce the obstacle. The breach force must be resourced with enough maneuver assets to provide local security against the forces supporting force cannot engage sufficiently. Elements within the breach force securing the reduction area also may be used to suppress the enemy once reduction is complete. The breach force also may need to assault to the far side of the breach and provide local security so the assault element can seize its initial objective.
1200. What is the definition of reduction in terms of tactics?
- Reduction is the creation of lanes through or over an obstacle to allow an attacking force to pass. The number and width of lanes created varies with the enemy situation, the assault force's size, composition, and scheme of maneuver. The lanes must allow the assault force to rapidly pass through the obstacle. The breach force will reduce proof (if required), mark, and report lane locations and lane-marking method to higher command headquarters. Follow-on units will reduce or clear the obstacle when required. Reduction cannot be accomplished until suppression and obscuration are in place, the obstacle has been identified, and point of breach is secure.
1201. What criteria needs to be met for a breaching operation to be considered complete?
- A breaching operation is not complete until:
  - Friendly forces have assaulted to destroy the enemy on the far side of the obstacle as the enemy is capable of placing or observing direct and indirect fires on the reduction area.

- c. Battle handover with follow-on forces has occurred, unless no battle handover is planned.
1202. How does the commander accomplish breaching fundamentals?
- a. A commander or platoon leader organizes friendly forces to accomplish breaching fundamentals quickly and effectively. This requires him to organize support, breach, and assault forces with the necessary assets to accomplish their roles. For tactical obstacle breaches, platoons and squads normally are assigned as either one or part of the following forces.
1203. What is the primary responsibility of the support force?
- a. The support force's primary responsibility is to eliminate the enemy's ability to place direct or indirect fire on friendly force and interfere with a breaching operation. It must—
  - b. Isolate the reduction area with fires and establish a support-by-fire position to destroy, fix, or suppress the enemy. Depending on METT-TC, this may be the weapons squad or the entire platoon.
  - c. Mass, control direct and indirect fires to suppress the enemy and to neutralize weapons able to bring fires on the breach force.
  - d. Control obscuring smoke to prevent enemy-observed direct and indirect fires.
1204. What is the purpose of the breach force?
- a. The breach force assists in the passage of the assault force by detecting, creating, proofing (if necessary), marking and reporting lanes. The breach force is a combined-arms force. It may include engineers, reduction assets, and enough maneuver forces to provide additional suppression and local security. The entire Infantry platoon or squad may be part of the breach force. The breach force may apply portions of the following breaching fundamentals as it reduces an obstacle.
1205. What resources does the breach force need to be successful?
- a. The breach force must be allocated enough maneuver forces to provide additional suppression against various threats, including:
  - b. Enemy direct-fire systems that cannot be observed and suppressed by the support force due to the terrain or the masking of the support force's fires by the breach force as it moves forward to reduce the obstacle.
  - c. Counterattacking and or repositioning forces that cannot be engaged by the support force.
1206. What does the breach force use to cover lanes while the assault force is passing?
- a. The breach force employs smoke pots, vehicle mounted smoke, handheld smoke or indirect fire obscurants if necessary, for self-defense and to cover lanes while the assault force is passing.
1207. How does the breach force secure itself from threat forces?
- a. The breach force secures itself from threat forces providing close-in protection of the obstacle. The breach force also secures the lanes through the tactical obstacles once they are created to allow safe passage of the assault force.
1208. How does the breach force accomplish its primary mission?

- a. The breach force performs its primary mission by reducing the obstacle. To support the development of a plan to reduce the obstacle, the composition of the obstacle system must be an information requirement. If the obstacles are formidable, Infantry platoons and squads will be augmented with engineers to conduct reduction. Without engineers and special equipment such as Bangalore torpedoes and line charges, mine fields must be probed. The breach force assaults through the point of breach to the far side of an obstacle and seizes the foothold. The assault force's primary mission is to destroy the enemy and seize terrain on the far side of the obstacle to prevent the enemy from placing direct fires on the created lanes. The assault force may be tasked to assist the support force with suppression while the breach force reduces the obstacle. The assault force must be sufficient in size to seize the point of penetration. Combat power is allocated to the assault force to achieve a minimum 3:1 ratio on the point of penetration. The breach and assault assets may maneuver as a single force when conducting breaching operations as an independent company team conducting an attack. If the obstacle is defended by a small enemy force, assault and breach forces' missions may be combined. This simplifies mission command and provides more immediate combat power for security and suppression. Fire control measures are essential because support and breach forces may be firing on the enemy when the assault force is committed. Suppression of overwatching enemy positions must continue and other enemy forces must remain fixed by fires until the enemy has been destroyed. The assault force must assume control for direct fires on the assault objective as support and breach force fires are ceased or shifted. Table H-1 illustrates the relationship between the breaching organization and breaching fundamentals.

1209. Who is responsible for developing a breaching plan? What is the process for developing a breaching plan?

- a. The platoon leader along with the platoon sergeant and squad leaders must develop the breaching plan using the following sequence when planning for a protective obstacle breach. The platoon leader can plan to breach wire, mine fields, trenches, and craters. (See figure H-4.) The following considerations must be made:
- b. Reverse planning begins with actions on the objective.
- c. Actions on the objective drive the size and composition of the assault force.
- d. The size of the assault force determines the number and location of lanes to be created.
- e. The ability of the enemy to interfere with the reduction of the obstacle determines the size and composition of the security element in the breach force.
- f. The ability of the enemy to mass fires on the point of breach determines the amount of suppression and size and composition of the support force.

1210. What must units do as part of removing obstacles?

- a. As part of reducing obstacles, units also must detect, report, proof, and mark. Detection is the actual confirmation of the location of obstacles. It may be accomplished through reconnaissance. It also can be unintentional (such as a

vehicle running into a mine or wire). Detection is used in conjunction with information collection, bypass reconnaissance, and breaching/clearing operations. Specific detection methods for mines and IEDs are discussed more in this section. Intelligence concerning enemy minefields is reported by the fastest means available. A SPOTREP should be sent to higher headquarters when Infantry platoons or squads have detected a minefield or other obstacle. This should be done whether they are sent on a specific minefield or obstacle reconnaissance mission, or if they encounter one in the course of normal operations. The SPOTREP should contain as much information possible including the type, location, size of the obstacle, and results of reduction efforts. Proofing normally is done by engineers by passing a mine roller or another mineresistant vehicle through the minefield to verify a lane is free of mines. If the risk of live mines remaining in the lane does not exceed the risk of loss to enemy fires while waiting, proofing may not be practical. Some mines are resistant to specific breaching techniques. For example, magnetically fused mines may be resistant to some explosive blasts. So proofing should be done when the time available, the threat, and mission allows. Proofing also involves verifying other obstacles (such as wire) are free of explosive or injurious devices. Marking breach lanes and bypasses is critical to obstacle reduction.

1211. What are three methods of minefield detection?
  - a. The three types of minefield detection methods the platoon or squad might employ visual, physical (probing), and electronic.
1212. Soldiers should visually inspect the terrain for what obstacle indicators?
  - a. Visual detection is part of all combat operations. Soldiers should constantly be alert for minefields and all types of enemy obstacles. Soldiers visually inspect the terrain for the following obstacle indicators:
    - b. Trip wires and wires leading away from the side of the road. They may be firing wires
    - c. that are partially buried.
    - d. Signs of road repair (such as new fill or paving, road patches, ditching, and culvert work).
    - e. Signs placed on trees, posts, or stakes. Threat forces may mark their minefields to protect their own forces.
    - f. Dead animals or damaged vehicles.
    - g. Disturbances in previous tire tracks or tracks stopping unexplainably.
    - h. Odd features in the ground or patterns not present in nature. Plant growth may wilt or change color; rain may wash away some of the cover; the cover may sink or crack around the edges; or the materiel covering the mines may look like mounds of dirt.
    - i. Civilians who may know where mines or IEDs are located in the residential area. Civilians staying away from certain places or out of certain buildings are good indications of the presence of mines or IEDs. Question civilians to determine the exact locations.

- j. Pieces of wood or other debris on a road. They may be indicative of pressure or pressure-release firing devices. These devices may be on the surface or partially buried.
  - k. Patterns of objects being used as a sighting line. An enemy can use mines fired by command, so road shoulders and areas close to the objects should be searched.
  - l. Berms may indicate the presence of an antitank ditch.
1213. What is probing used for?
- a. Physical detection (probing) is time-consuming and is used primarily for mineclearing operations, self-extraction, and covert breaching operations. Detection of mines by visual or electronic methods should be confirmed by probing.
1214. What are the characteristics of electronic mine detection?
- a. Electronic detection is effective for locating mines, but this method is timeconsuming and exposes personnel to enemy fire. In addition, suspected mines must be confirmed by probing. As in probing, 20 to 30 minutes is the maximum amount of time an individual can use the detector. The AN/PSS-14 uses ground penetrating radar (GPR) and metal detection sensing for the detection of AP and AT mines. (See figure H-5.) Both the metal detection and GPR are active search methods that transmit electronic signals into the ground and analyze the signals that return. The metal detection and GPR audio signal can be used separately and in combination as required by local conditions. (Refer to TC 3-34.14 for more information.)
1215. What are the characteristics of the Bangalore torpedo?
- a. The Bangalore torpedo (see figure H-7) is a manually emplaced, explosive-filled pipe designed to create a lane in wire obstacles and is also effective against simple pressure-activated AP mines. The M1A1 and M1A2 kits are issued as a demolition kit that consists of 10 1.5-meter tubes, 10 connecting sleeves, and one nose sleeve. Each tube contains four kilograms of HE and weighs six kilograms. The kit clears a 1-by 15-meter lane. The M1A3 Bangalore torpedo demolition kit consists of eight charge assemblies, eight connecting sleeves, and two nose sleeves. The tube assemblies, or torpedoes, are steel tubes 2 1/2 feet long and 2 1/8 inches in diameter, grooved and capped at each end. The torpedoes have a 4-inch composition A3 booster (1/2 pound each) at both ends of each 2 1/2 foot section. The main explosive charge is five pounds of composition B4. The primary use of the torpedo is for clearing lanes through wire obstacles and heavy undergrowth. It will clear a 3- to 4-yard-wide path through wire obstacles. All torpedo sections have a threaded cap well at each end so they can be assembled in any order. The connecting sleeves are used to connect the torpedo sections together. An individual or pair of Soldiers connect the number of sections needed, and push the torpedo through the antipersonnel minefield before priming the torpedo. A detailed reconnaissance is conducted before using the Bangalore torpedo to ensure trip wires have not been used. The

Bangalore torpedo generates one short impulse. It is not effective against pronged, double-impulse, or pressure-resistant antipersonnel or antitank mines.

1216. What is the APOBS?

- a. The Antipersonnel Obstacle Breaching System (APOBS) (see figure H-8, page H-18) is a man-portable device capable of quickly creating a footpath through AP mines and wire entanglements. It provides a lightweight, self-contained, two-man, portable line charge rocket-propelled over AP obstacles away from the obstacle's edge from a standoff position. For dismounted operations, the APOBS is carried in 25-kilogram backpacks by no more than two Soldiers for a maximum of two kilometers. One backpack assembly consists of a rocket-motor launch mechanism containing a 25-meter line-charge segment and 60 attached grenades. The other backpack assembly contains a 20-meter line-charge segment and 48 attached grenades.

1217. What are the characteristics of the M183 Satchel Charge?

- a. Consists of 16 M112 (C4) charges and four priming assemblies. Total explosive weight of 20 pounds. Used primarily for breaching obstacles or demolishing structures when large charges are required. Is effective on smaller obstacles such as small dragon's teeth.

1218. What are the characteristics of the M112 Charge?

- a. Consists of 1.25 pounds of C4 packed in an olive drab Mylar film container with a pressure-sensitive adhesive tape on one surface. Primarily used for cutting and breaching. Because of its ability to cut and be shaped, the M112 is ideally suited for cutting irregularly-shaped targets such as steel. The adhesive backing allows you to place the charge on relatively flat surfaces.

1219. What is the Modernized Demolition Initiator (MDI)?

- a. MDI is a new family of nonelectric blasting caps and associated items. Components simplify initiation systems and improve reliability and safety. Components include the M11 high strength blasting cap, the M12 and M13 low strength blasting caps, and M14 high strength time delay cap.

1220. What are the characteristics of Detonating Cord?

- a. Consists of a core of HE (6.4 pounds of PETN per 1,000 feet) wrapped in a reinforced and waterproof olive drab coating. Can be used to prime and detonate single or multiple explosive charges simultaneously. Can be used in conjunction with the MDI components.

1221. What is the purpose of lane marking?

- a. Lane marking allows the leader to project the platoon or squad through the obstacle quickly with combat power. It also gives Infantry platoons or squad's confidence in the safety of the lane and helps prevent unnecessary minefield casualties. Once a footpath has been probed and mines marked or reduced, a security team should cross the minefield to secure the far side. After the far side is secure, the rest of the unit should cross. If mines and trip wires have been identified but not reduced, the mine and line of the trip wire are marked along the ground surface, 12 inches before the trip wire.

1222. How do you reduce a wire obstacle?

- a. The enemy uses wire and concertina obstacles to separate Infantry from tanks and to slow or stop the Infantry movement. His wire obstacles are similar to ours. On patrol, reducing a wire obstacle may require stealth and is conducted using wire cutters or by crawling under or crossing over the wire. It may not require stealth during an attack and can be accomplished with Bangalore torpedoes and wire cutters.
  - b. To cut through a wire obstacle with stealth, —
  - c. Cut only the lower strands and leave the top strand in place, making it less likely the enemy will discover the gap.
  - d. Cut the wire near a picket. To reduce the noise of a cut, have another Soldier wrap cloth around the wire and hold the wire with both hands. Cut part of the way through the wire between the other Soldier's hands and have him bend the wire back and forth until it breaks. If you are alone, wrap cloth around the wire near a picket, partially cut the wire, and bend and break the wire.
  - e. To reduce an obstacle made of concertina, —
  - f. Cut the wire and stake it back to keep the breach open.
  - g. Stake the wire back far enough to allow room to crawl through or under the obstacle.
1223. What is it important to know how to efficiently employ obstacle reduction techniques?
- a. Understanding how to employ and incorporate reduction techniques is an important part of urban operations. Gaining quick access to targeted rooms is integral to room clearing. Reduction teams need to be supported by fires or obscurants. Reduction operations should be performed during hours of limited visibility whenever possible. Reduction techniques vary based on construction encountered and munitions available. The three urban reduction methods discussed in this appendix are mechanical, ballistic, and explosive. The assault team's order of march to the breach point is determined by the method of reduction and its intended actions at the entry point. This preparation must be completed prior to or in the last covered and concealed location before reaching the entry point. Establishing an order of march aids the team leader with mission command and minimizes exposure time in open areas and at the entry point. One order of march technique is to number the assault team members one through four. The No. 1 man always should be responsible for frontal and door security. If the reduction has been conducted prior to its arrival, the assault team quickly moves through the entry point. If a reduction has not been made prior to its arrival at the entry point, depending on the type of breach to be made, the team leader conducts the reduction himself or signals forward the breach man or element. One option is to designate the squad leader as the breach man. If the breach man is part of the assault team, he normally will be the last of the four men to enter the building or room. This allows him to transition from his reduction task to his combat role.
1224. Why is breach location important?
- a. The success of the assault element often depends on the speed with which it gains access into the building. It is important the breach location provide the

assault element with covered or concealed access, fluid entry, and ability to be overwatched by the support element.

1225. What are Mouseholes?

- a. Mouse-holes provide a safe means of moving between rooms and floors. C4 plastic explosive can be used to create mouse-holes when lesser means of mechanical reduction fail. Because C4 comes packaged with an adhesive backing or can be emplaced using pressure-sensitive tape, it is ideal for this purpose. When using C4 to blow a mouse-hole in a lath and plaster wall, one block or a strip of blocks should be placed on the wall from neck-to-knee height. Charges should be primed with detonating cord or modernized demolition initiator (MDI) to obtain simultaneous detonation blowing a hole large enough for a man to fit through.

1226. What are considerations for the use of Expedient Reduction Methods?

- a. Because the internal walls of most buildings function as partitions rather than loadbearing members, smaller explosive charges can be used to reduce them. When C4 or other military explosives are not available, one or more fragmentation grenades or a Claymore can be used to reduce some internal walls. These field-expedient reduction devices should be tamped to increase their effectiveness and to reduce the amount of explosive force directed to the rear. Take extreme care when attempting to perform this type of reduction because fragments may penetrate walls and cause friendly casualties. If walls are made of plaster or dry wall, mechanical reduction may be more effective.

1227. What are considerations for breaching rooms with Windows and Restrictive Entrances?

- a. Regardless of the technique used to gain entry, if the breach location restricts fundamental movement into the room or building, local or immediate support must be used until the assault team can support itself. For example, as a Soldier moves through a window and into the room, he may not be in a position to engage an enemy. Therefore, another window having access to the same room may be used to overwatch the lead team's movement into the room. The overwatching element can come from the initial clearing team or from the team designated to enter the breach location second.

1228. What are the characteristics of mechanical obstacle reduction?

- a. This method requires increased physical exertion by one or more Soldiers using hand tools such as axes, saws, crowbars, hooligan's tools, or sledgehammers to gain access. Although most Soldiers are familiar with these tools, practice on various techniques increases speed and effectiveness. The mechanical reduction is not the preferred primary method because it may be time-consuming and defeat the element of surprise. However, the ROE and situation may require the use of these tools, so Soldiers should be proficient in their use. Typically, the order of movement for a mechanical breach is the initial assault team, followed by the breach man or element. At the breach point, the assault team leader brings the breach team forward while the assault team provides local security. After the reduction is conducted, the breach team moves aside and provides

local security as the assault team enters the breach. (Refer to ATTP 3-06.11 for more information.) When developing an urban operations mechanical breach kit SOP, Infantry units must consider their mission essential task list (METL) and unit tactical SOPs.

1229. What are the characteristics of ballistic obstacle reduction?

- a. Ballistic reduction requires the use of a weapon firing a projectile at the breach point. Ballistic reduction is not a positive means of gaining entry and should not be considered the primary method for gaining initial entry into a structure. It may not supply the surprise, speed, and violence of action necessary to minimize friendly losses on initial entry. In certain situations, it may become necessary to use ballistic reduction as a backup entry method. A misfire of an explosive charge or the compromise of the assault element during its approach to the target may necessitate the use of ballistic reduction as a means of initial entry into the structure. Ballistic reduction may have to be followed up with a fragmentation, concussion, or stun grenade before entry.
- b. Once initial entry is gained, shotgun ballistic reduction may become the primary method for gaining access to subsequent rooms within the structure. Surprise is lost upon initial entry, and other reduction methods are often too slow, tending to slow the momentum of the assault team. If a door must be used for entry, several techniques can be used to open the door. Doors should be considered a fatal funnel because they usually are covered by fire, or may be booby-trapped. (Refer to ATTP 3-06.11 for more information.)
- c. Unless a deliberate breach is planned, the platoon or squad can employ a series of progressive reductions. An example is an attempt to open a door by using the doorknob first, then shotgun reduction, then explosive reduction as a final option. Mechanical reduction can be used to clean up a failed attempt of a shotgun or explosive reduction, but also can be used as the primary reduction technique. Based on the multiple situations the complex urban environment presents, the leader needs latitude in his options.

1230. When are BFVs and artillery pieces viable methods of breaching?

- a. For exterior walls, the use of a BFV or artillery piece in the direct fire role is ideal if the structure will support it and if the ROE will allow it. The BFV's 25-mm cannon is a reduction weapon when using HE rounds and firing a spiral firing pattern. (See figure H-13.) The main gun of an M1-series Abrams tank is effective when using the HEAT round. However, the APDS-T round rarely produces the desired effect because of its penetrating power.

1231. When is the M500/M26 shotgun used for breaching?

- a. The M500/M26 12-gauge shotgun breaching round is effective on doorknobs and hinges, while standard small arms (5.56 mm and 7.62 mm) have proven to be virtually ineffective for reducing obstacles. These should not be used except as a last resort because of ricochet potential and shoot-through capability. Ballistic reduction of lightly constructed interior walls by shotgun fire is normally an alternate means of gaining entry

1232. What are RLEMs? When are they viable breaching methods?

- a. Rifle-launched entry munitions (RLEM) allow a remote ballistic reduction of an exterior door or window without having the assault or breaching element physically present at the entry point. This allows the assault element to assume a posture for entry in the last covered and concealed position before the breach. The RLEM shooter is not normally part of the assault element but rather a part of the breaching or support element. This allows the RLEM to be fired from one position while the assault element waits in another position. In the event the first round does not affect the reduction, the firer should prepare a second round for reduction or a second firer should be prepared to engage the target.
1233. What types of shotgun rounds can be used for breaching?
- a. Various shotgun rounds can be used for ballistic reduction. Breaching and clearing teams need to be familiar with the advantages as well as the disadvantages of each type of round. Leaders must consider the potential for over penetration on walls and floors in multi-story buildings to avoid potential fratricide incidents or killing of noncombatants:
  - b. Rifled slugs. Rifled slugs defeat most doors encountered, including some heavy steel doors. However, rifled slugs present a serious over penetration problem and could easily kill or injure anyone inside the room being attacked. Rifled slugs are excellent AP rounds and can be used accurately up to 100 meters.
  - c. Bird shot. Bird shot (No. 6 through No. 9 shot) is used in close-range work up to 15 meters. A 2  $\frac{3}{4}$ -inch shell of No. 9 shot typically contains an ounce of shot (though it can be loaded to 1  $\frac{1}{2}$ -ounce with an accompanied increase in recoil). The major advantage of bird shot is it does not over penetrate. Therefore, bird shot poses little hazard to fellow team members in adjoining rooms. When used at close range, bird shot offers the same killing potential as buckshot, especially in a full choke shotgun intended for dense shot patterns. Another advantage of bird shot is low recoil. This feature allows for faster recovery and quicker multi-target engagements. A disadvantage with bird shot is rapid-energy bleed-off reducing penetration at medium and long ranges. Moreover, the small size of the individual pellets requires hits be made with a majority of the shot charge to be effective. A hit with one-third
  - d. of the No. 9 shot charge may not be fatal, unless the shot is at extremely close range. These disadvantages are negated when birdshot is fired from a full choke shotgun where it will produce a pattern quite small inside of 10 meters. Inside five meters, all of the shot will be clumped like a massive single projectile.
  - e. Buckshot. Buckshot is used in close- to medium-range work, up to 30 meters. Because of its larger size, buckshot is more lethal than bird shot. A 2  $\frac{3}{4}$ -inch shell of buckshot contains nine .30-caliber pellets. One .30-caliber ball of the 00 buckshot charge hit can prove fatal. Buckshot also retains its energy longer. Therefore, it is lethal at longer ranges than bird shot. A disadvantage of buckshot is over penetration. Because buckshot typically is loaded with heavier shot charges, it also has heavy recoil. This problem becomes apparent when numerous shots have been taken and can result in fatigue.

- f. Ferret rounds. Ferret rounds contain a plastic slug filled with liquid chemical irritant (CS). When shot through a door or wall (drywall or plywood), the plastic slug breaks up and a fine mist of CS is sprayed into the room. The effectiveness of one round is determined by the size of the room on the other side of the door or the wall and also the ventilation in that room.
1234. What are the target points when breaching a door?
- a. When using the shotgun as an alternate reduction method to gain entry, shooters must consider the following target points on the door.
  - b. Doorknob. Never target the doorknob itself because when the round impacts, the doorknob has a tendency to bend the locking mechanism into the doorframe. In most cases this causes the door to be bent in place and prevents entry into the room.
  - c. Locking mechanism. When attacking the locking mechanism, focus the attack on the area immediately between the doorknob and doorframe. Place the muzzle of the shotgun no farther than one inch away from the face of the door directly over the locking mechanism. The angle of attack should be 45 degrees downward and at a 45-degree angle into the doorframe. After breaching the door, kick it swiftly. This way, if the door is not completely open, a strong kick usually will open it. When kicking the door open, focus the force of the kick at the locking mechanism and close to the doorjamb. After the locking mechanism has been reduced, this area becomes the weakest part of the door.
  - d. Hinges. The hinge breach technique is performed much the same as the doorknob reduction, except the gunner aims at the hinges. He fires three shots per hinge, the first at the middle, then at the top and bottom. He fires all shots from less than an inch away from the hinge. Because the hinges are often hidden from view, the hinge reduction is more difficult. Hinges are generally 8 to 10 inches from the top and bottom of the door. The center hinge is generally 36 inches from the top, centered on the door. Regardless of technique used, immediately after the gunner fires, he kicks the door in or pulls it out. He then pulls the shotgun barrel sharply upward and quickly turns away from the doorway to signal the breach point has been reduced. This rapid clearing of the doorway allows the following man in the fire team a clear shot at enemy who may be blocking the immediate breach site. (Refer
  - e. to ATTP 3-06.11 for more information.)
1235. What actions are taken if assault team members encounter a door to a follow on room immediately after a breach?
- a. When the assault team members encounter a door to a "follow-on" room, they should line up on the side of the door giving them a path of least resistance upon entering. When the door is encountered, the first Soldier to see it calls out the status of the door, OPENED or CLOSED. If the door is open, Soldiers should never cross in front of it to give themselves a path of least resistance. If the door is closed, the No. 1 man maintains security on the door and waits on the No. 2 man to gain positive control of the No. 1 man. The No. 1 man begins the progressive breaching process by taking his nonfiring hand and checking the

doorknob to see if it is locked. If the door is unlocked, the No. 1 man (with his hand still on the door) pushes the door open as he enters the room. If the door is locked, the No. 1 man releases the doorknob (while maintaining security on the door) and calls out the breacher, BREACHER UP. Once the breacher arrives at the door (with round chambered), he places the muzzle of the shotgun at the proper attack point, takes the weapon off safe, and signals the No. 2 man by nodding his head. At that time, the No. 2 man (with one hand maintaining positive control of the No. 1 man) takes his other hand (closest to the breacher) and forming a fist, places it within the periphery of the breacher and pumps his fist twice saying, READY BREACH. This action allows the breacher to see if a flash-bang or grenade is to be used. Once the breacher defeats the door, he steps aside and allows the assault team to enter. He then either assumes the position of the No. 4 man if he is acting as a member of the assault team or remains on-call as the breacher for follow-on doors. He should keep the shotgun magazine full at all times. There may be several doors, and stopping to reload will slow the momentum of the assault.

1236. What is one of the most difficult breaching operations to conduct?
- a. One of the most difficult breaching operations of the assault team is reducing masonry and reinforced concrete walls. C4 normally is used for explosive reduction because it is safe, easy to use, and readily available. Engineers usually are attached to the platoon or squad if explosive reduction operations are expected. The attached engineers will conduct the reduction themselves or provide technical assistance to the Infantry Soldiers involved. The typical thickness of exterior walls is 15 inches or less, although some forms of wall construction are several feet thick. Assuming all outer walls are constructed of reinforced concrete, a rule of thumb for reduction is to place 10 pounds of C4 against the target between waist and chest height. When detonated, this charge normally blows a hole large enough for a man to go through. On substandard buildings, however, a charge of this size could level the building. When explosives are used to reduce windows or doors, the blast should eliminate IEDs in the vicinity of the window or doorframe.
1237. How are explosive charges used when reducing obstacles?
- a. Place the charges (other than shape charges) directly against the surface to be reduced. When enemy fire prevents an approach to the wall, a potential technique is to attach the charge, untamped, to a pole and slide it into position for detonation at the base of the wall. Small-arms fire will not detonate C4 or TNT. Take cover before detonating the charge.
1238. How should explosives be used to increase effectiveness?
- a. Whenever possible, explosives should be tamped or surrounded with materiel to focus the blast to increase effectiveness. Tamping materials could be sandbags, rubble, desks, chairs, and even intravenous bags. For many exterior walls, tamping may be impossible due to enemy fire. An untamped charge requires approximately twice the explosive charge of a tamped charge to produce the same effect.

1239. What are methods of cutting metal reinforcing rods in concrete reinforcements?
- Charges will not cut metal reinforcing rods inside concrete targets. If the ROE permit, hand grenades should be thrown into the opening to clear the area of enemy. Once the area has been cleared of enemy, the reinforcing rods can be removed using special steel-cutting explosive charges or mechanical means.
1240. How can leaders ensure optimal use of explosive charges for door breaching?
- Various charges can be utilized for explosive reduction of doors. Leaders must conduct extensive training on the use of the charges to get proper target feedback. The general-purpose charge, rubber band charge, and flexible linear charge are field-expedient charges that can be used to reduce interior and exterior doors. These charges give the breach element an advantage because they can be made ahead of time and are simple, compact, lightweight, and easy to emplace. (Refer to ATTP 3-06.11 for more information.)
1241. How do you build a general purpose charge?
- This charge is the most useful ready charge for reducing a door or other barrier. It can cut mild steel chain and destroy captured enemy equipment. To construct the general purpose charge—
  - Take a length of detonation cord about two feet long. Using another length of detonation cord, tie two uli knots around the 2-foot long cord. The uli knots need to have a minimum of six wraps and be loose enough for them to slide along the main line, referred to as an uli slider. Trim the excess cord from the uli knots and secure them with tape.
  - Cut a block of C4 explosive to a two-inch square.
  - Tape one slider knot to each side of the C4 block, leaving the length of detonation cord free to slide through the knots.
1242. How are general purpose charges placed?
- To place the charge, perform the following:
  - To reduce a standard door, place the top loop of the charge over the doorknob. Slide the uli knots taped to the C4 so the charge is tight against the knob.
  - Prime the loose ends of the detonation cord with an MDI firing system and detonate.
1243. How do you construct a rubber band charge?
- The rubber band charge is an easily fabricated lightweight device that can be used to remove the locking mechanism or doorknob from wooden/light metal doors, or to break a standard-size padlock at the shackle. To construct the rubber band charge, —
  - Cut a 10-inch piece of detonation cord and tie an overhand knot in one end.
  - Using another piece of detonation cord, tie an uli knot with at least eight wraps around the first length of cord.
  - Slide the uli knot tightly up against the overhand knot. Secure it in place with either tape or string.
  - Loop a strong rubber band around the base of the uli knot tied around the detonation cord.

- f. Tie an overhand knot in the other end of the cord to form a pigtail for priming the charge
1244. How do you place a rubber band charge?
- a. To place the charge, attach the charge to the doorknob (or locking mechanism) by putting the loose end of the rubber band around the knob. The charge must be placed between the knob and doorframe. This ensures the explosive is over the bolt securing the door to the frame.
1245. What is a flexible linear charge? How is it made?
- a. The simplest field-expedient charge for reducing wooden doors is the flexible linear charge. (See Tables H-3 and H-4 (page H-34) for charge use and system components.) It can be made in almost any length and is easily carried until needed. It is effective against hollow-core, particle-filled, and solid wood doors. When detonated, the flexible linear charge cuts through the door near the hinges. To construct the flexible linear charge, lay out a length of double-sided contact tape with the topside adhesive exposed. Place the necessary number of strands of detonation cord down the center of the double-sided tape, pressing them firmly in place. Military detonation cord has 50 grains of explosives per foot and 7,000 grains in a pound. Most residential doors are 80 inches tall. Commercial doors are 84 inches tall. This must be considered when calculating the quantities of explosives, overpressure, and MSDs. For hollow-core doors, use a single strand; for particle-filled doors, use two strands; and for solid wood doors, use three strands. If the door type is unknown, use three strands. One of the strands must be cut about a foot longer than the others and should extend past the end of the double-sided tape. This forms a pigtail where the initiating system is attached once the charge is in place. Cover the strands of detonation cord and all the exposed portions of the double-sided tape with either sturdy single-sided tape or another length of double-sided tape. Roll the charge, starting at the pigtail, with the double-sided tape surface to be placed against the door on the inside. At the breach site, place the charge straight up and down against the door tightly. If it is too short, place it so it covers at least half of the door's height. Prime and fire the charge from the bottom.
1246. What must be considered when using explosives during breaching operations?
- a. When employing explosives during breaching operations, leaders must consider three major safety factors: overpressure; missile hazard; and MSD requirements.
  - b. Overpressure
  - c. Overpressure is the pressure per square inch (PSI) released from the concussion of the blast. Both outside and into the interior of the building or room, which can injure, incapacitate, or kill.
  - d. Missile Hazard
  - e. Missile hazards are fragmentation or projectiles sent at tremendous speed from the explosion area. This occurs from either the charge or target being breached.
  - f. Minimum Safe Distance Requirements
  - g. When using explosives in the urban environment, Soldiers must consider the presence of noncombatants and friendly forces. Additionally, there are many

hazardous materiel's located in the urban environment, including CBRN and construction materiel's. There is always a risk of secondary explosions and fires when employing explosive breaching techniques.

1247. What procedures help the platoon and squad safely deal with IEDs?

- a. When dealing with IEDs, the following rules and safety procedures can save lives:
- b. Suspect objects appearing to be out of place or artificial in its surroundings. Remember, what you see may well be what the enemy wants you to see. If you did not put it there, do not pick it up.
- c. Examine mines and IEDs from all angles, and check for alternative means of detonating before approaching them.
- d. Ensure only one man works on a booby trap.
- e. Do not use force. Stop if force becomes necessary.
- f. Do not touch a trip wire until both ends have been investigated and all devices are disarmed and neutralized.
- g. Trace trip wires and check for additional traps along and beneath them.
- h. Treat all parts of a trap with suspicion, because each part may be set to actuate the trap.
- i. Wait at least 30 seconds after pulling a booby trap or a mine. There might be a delay fuse.
- j. Mark all traps until they are cleared.
- k. Expect constant change in enemy techniques.
- l. Never attempt to clear IEDs by hand if pulling them or destroying them in place is possible and acceptable IEDs might be found in recently contested areas, so no items or areas that have not been cleared should be considered safe. By anticipating the presence of traps, it might be possible to isolate and bypass trapped areas. If this is not possible, employ countermeasures such as avoiding convenient and covered resting places along routes where mines or other explosive devices can be located. Collective training in booby-trap
- m. awareness and rapidly disseminating booby-trap incident reports to all levels is vital. This allows Soldiers to develop an understanding of the enemy's method of operation and a feel for what might or might not be targets.

1248. What does IED detection depend on?

- a. Detection depends on two things: being aware of what might be trapped and why, and being able to recognize the evidence of setting. The first requirement demands a well developed sense of intuition; the second, a keen eye. Intuition is gained through experience and an understanding of the enemy's techniques and habits. A keen eye is the result of training and practice in the recognition of things indicating the presence of a trap. Detection methods depend on the nature of the environment. In open areas, methods used to detect mines can usually detect IEDs. Look for trip wires and other signs suggesting the presence of an actuating mechanism. In urban areas, mine detectors are probably of little use. The platoon and squad will have to rely on manual search techniques and, if available, special equipment.

1249. What is the presence of IEDs or nuisance mines indicated by?
- Disturbance of ground surface or scattered, loose soil.
  - Wrappers, seals, loose shell caps, safety pins, nails, and pieces of wire or cord.
  - Improvised methods of marking traps, such as piles of stones or marks on walls or trees.
  - Evidence of camouflage, such as withered vegetation or signs of cutting.
  - Breaks in the continuity of dust, paint, or vegetation.
  - Trampled earth or vegetation; foot marks.
  - Lumps or bulges under carpet or in furniture.
1250. How is reducing IEDS and nuisance mines accomplished?
- Reducing IEDs and nuisance mines in area of operation is done primarily by engineers, especially in secured areas. However, some IEDs may have to be cleared by Infantry Soldiers to accomplish a mission during combat. The method used to disarm a trap depends on many things including, time constraints, personnel assets, and type of trap.
  - A trap cannot be considered safe until the blasting cap or the detonation cord has been removed from the charge.
  - Use the safest method available to neutralize a trap. For example, if the firing device and detonation cord are accessible, it is usually safer to cut the detonation cord.
  - This method does not actuate the trap, but inserting pins in the firing device might. Unit resources or locally-manufactured or acquired aids often are used to clear traps. In areas with a high incidence of IEDs, assemble and reserve special clearing kits. Mark all IEDs found.
  - Nonexplosive traps typically are used in tropical or rain forest regions. Ideal construction materials abound and concealment in surrounding vegetation is relatively easy. No prescribed procedures exist for clearing nonexplosive traps. Each trap must be cleared according to its nature.
1251. What are obstacles used for?
- Obstacles are used to reinforce the terrain. When combined with fires, they disrupt, fix, turn, or block an enemy force. Obstacles are used in all operations, but are most useful in defensive missions. Leaders must always consider what materials are needed and how long the obstacle will take to construct.
1252. What is a primary concern of the platoon and squad in the defense?
- A primary concern of the platoon and squad in the defense is to supplement their fortified positions with extensive protective obstacles, both antipersonnel and antivehicular (particularly AP). AP obstacles, both explosive and nonexplosive, include all those mentioned in Section I of this chapter (such as wire entanglements, AP mines, and field expedient devices), and are used to prevent enemy troops from entering a friendly position. Antipersonnel obstacles usually are integrated with fires and are close enough to the fortification for adequate surveillance by day or night, but beyond effective hand grenade range. Obstacles also are used within the position to compartmentalize the area in the event outer protective barriers are breached.

1253. How does the platoon use obstacles in the offense?
- a. In the offense, the platoon/squad uses obstacles to:
  - b. Aid in flank security
  - c. Limit enemy counterattack.
  - d. Isolate objectives.
  - e. Cut off enemy reinforcement or routes of withdrawal.
1254. How does the platoon/squad use obstacles in the defense?
- a. In the defense, the platoon/squad uses obstacles to—
  - b. Slow the enemy's advance to give Infantry platoons and squads more time to mass fires on them.
  - c. Protect defending units.
  - d. Canalize the enemy into places where he can be engaged more easily.
  - e. Separate the enemy's tanks from its Infantry.
  - f. Strengthen lightly defended areas.
1255. What is a mine? How can mines be deployed?
- a. A mine is an explosive device employed to kill, destroy, or incapacitate enemy personnel and equipment. Mines can be employed in quantities within a specific area to form a minefield, or they can be used individually to reinforce nonexplosive obstacles. Equipment targets include ground vehicles, boats, and aircraft. Land mines fall into the
  - b. following two general categories:
  - c. (U) Persistent
  - d. (U) Non-Persistent
1256. How are mines and munitions deployed?
- a. Within each of these categories, the mines and munitions can be more clearly defined as antitank or antipersonnel. Mines are one of the most effective tank killers on the battlefield. The type of minefield that a platoon or squad most commonly emplaces is the hasty protective. It is important to distinguish the difference between the types of minefield and means of emplacement. Volcano, MOPMS, standard-pattern, and row mining are not types of minefields; they are just some of the means used to emplace tactical, situational, nuisance, and protective minefields. They also may be the method of emplacement that is replicated by a phony minefield.
1257. What are some of the regulations for U.S. use of mines?
- a. The United States will—
  - b. Not use APL outside the Korean Peninsula.
  - c. Not assist, encourage, or induce anyone outside the Korean Peninsula to engage in activity prohibited by the Ottawa Convention; and undertake to destroy APL stockpiles not required for the defense of the Republic of Korea.
1258. How are land mines deployed?
- a. Land-based mines and munitions are hand-emplaced, remote-delivered, airdelivered, or ground-delivered. (See table H-5.) ATP 3-34.20 provides detailed instructions on the installation and removal of U.S. mines and firing devices.
1259. What are SCATMINES?

- a. SCATMINES are laid without regard to a classical pattern. They are designed to be delivered remotely by aircraft, artillery, missile, or a ground dispenser. All U.S. SCATMINES have a limited active life and self-destruct after life has expired. The duration of the active life varies with the type of mine and delivery system. SCATMINES enable minefield emplacement in enemy-held territories, contaminated territories, and in most other areas where it is impossible for engineers, the platoon or squad to emplace countermobility obstacles. They may be used to support the platoon's and squad's mission by turning, fixing, disrupting, and blocking the enemy. However they are used, they must be planned and coordinated to fit into the overall obstacle plan. (Refer to ATP 3-90.8 for more information.)
1260. What are the characteristics and capabilities of the MOPMS?
- a. The man-portable, 162-pound, suitcase-shaped MOPMS dispenses a total of 21 mines (17 AT mines and 4 AP mines). It propels them in a 35-meter, 180-degree semicircle from the container. Mines are dispensed on command using the M71 remote control unit (RCU) or an electronic initiating device such as the M34 blasting machine. When dispensed, an explosive propelling charge at the bottom of each tube expels mines through the container roof. (See figure H-14, page H-40.) Infantry platoons and squads can use MOPMS to create a protective minefield or to close lanes in tactical obstacles. The safety zone around one container is 55 meters to the front and sides, and 20 meters to the rear. MOPMS has duration of four hours, which can be extended up to three times for a total of 16 hours. Once mines are dispensed, they cannot be recovered or reused. If mines are not dispensed, the container may be disarmed and recovered for later use. The RCU also can self-destruct mines on command, allowing a unit to counterattack or withdraw through the minefield. The RCU can control up to 15 MOPMS containers or groups of MOPMS containers from a distance of 300 to 1000 meters.
1261. What are the characteristics of conventional mines?
- a. Conventional mines are hand-emplaced mines requiring manual arming. This type of mine laying is labor, resource, and transport-intensive. Soldiers emplace conventional mines within a defined, marked boundary and lay them individually or in clusters. They record each mine location so the mines can be recovered. Soldiers can surface lay or bury conventional mines and may place AHDs on antitank mines.
1262. What mines are used by U.S. forces?
- a. The M15 and M21 AT mines are used by U.S. forces. They are shown in figure H-15. Their characteristics are listed in table H-6
1263. What mines are used by U.S. forces on the Korean peninsula?
- a. The M14 and M16 AP mines are used by U.S. forces on the Korean Peninsula. They also are used by many other countries. These mines are shown in figure H-16. Their characteristics are listed in table H-7.
1264. What are the characteristics of the M18A1 claymore?

- a. The M18A1 Claymore (see figure H-17) is a fragmentation munitions containing 700 steel balls and 682 grams of composition C4 explosive. It weighs 1.6 kilograms and is command-detonated. When employing the Claymore with other munitions or mines, separate the munitions by the following minimum distances:
    - b. Fifty meters in front of or behind other Claymores.
    - c. Three meters between Claymores placed side by side.
    - d. Ten meters from antitank or fragmentation antipersonnel munitions. Two meters from blast antipersonnel munition
1265. What is the M4 SLAM?
- a. The M4 SLAM is a multipurpose munitions with an anti-tamper feature. (See figure H-18.) It is compact and weighs only a kilogram. It is easily portable and is intended for use against armored personnel carriers, parked aircraft, wheeled or tracked vehicles, stationary targets (such as electrical transformers), small (less than 10,000 gallon) fuelstorage tanks, and ammunition storage facilities. The explosive formed penetrator warhead can penetrate 40 millimeters of homogeneous steel. The SLAM has two models (the selfneutralizing [M2] and self-destructing [M4]). The SLAM's four possible employment methods include: bottom attack, side attack, timed demolition, and command detonation.
1266. What is the Hornet? What is it capable of?
- a. The Hornet is a man-portable, nonrecoverable, AT/antivehicular, off-route munitions made of lightweight materiel (35 pounds) one person can carry and employ. It is capable of destroying vehicles by using sound and motion detection methods. It will automatically search, detect, recognize, and engage moving targets by using top attack at a standoff distance up to 100 meters. It can be a stand-alone tactical obstacle or can reinforce other conventional obstacles. (See figure H-19, page H-46.)
  - b. It disrupts and delays the enemy, allowing long-range, precision weapons to engage more effectively. This feature is particularly effective in non-LOS engagements. It normally is employed by combat engineers, Rangers, and SOF. The RCU is a handheld encoding unit interfacing with the Hornet when the remote mode is selected at the time of employment. After encoding, the RCU can be used to arm the Hornet, reset its self-destruct times, or destroy it. The maximum operating distance of the RCU is two kilometers.
1267. How may the platoon or squad employ wire defenses?
- a. The platoon or squad normally employs wire obstacles as part of the protective obstacle plan in the defense. Wire obstacles include barbed-wire, triple-standard concertina, four-strand cattle fences, and tanglefoot. Construction methods for two of the more common wire obstacles the platoon or squad employs, triple standard concertina, and tanglefoot are shown in figures H-21 through H-25
1268. What is the most common wire entanglement that a platoon may build?
- a. The most common wire entanglement a platoon or squad may build is the triple standard concertina fence. It is built of either barbed wire concertina or barbed tape concertina. There is no difference in building methods. The material and labor requirements for a 300-meter triple standard concertina fence are—

- b. Long pickets - 160.
  - c. Short pickets - 4.
  - d. Barbed wire, 400-meter reels - 3.
  - e. Rolls of concertina - 59.
  - f. Staples - 317.
  - g. Man-hours to erect - 30.
1269. How are concertina obstacles constructed?
- a. First, lay out and install pickets from left to right (facing the enemy). Put the long picket's five paces apart and short (anchor) picket's two paces from the end of the long pickets. (See figure H-21, page H-50.) The enemy and friendly picket rows are offset and are placed three feet apart. Now lay out rolls of concertina. Place a roll in front of the third picket on the enemy side, and two rolls to the rear of the third picket on the friendly side. Repeat this step every fourth picket thereafter. Install the front row concertina and horizontal wire. (See figure H-22, page H-50.) Place the concertina over the pickets. Install the rear row of concertina and horizontal wire. Install the top row of concertina and join the rear horizontal wire.
1270. Where are concertina roadblocks placed?
- a. The concertina roadblock is placed across roadways and designed to block wheeled or tracked vehicles. The roadblock is constructed of 11 concertina rolls or coils placed together, about 10 meters in depth, reinforced with long pickets five paces apart. The rolls or coils should not be tautly bound allowing them to be dragged and tangled around axles, tank road wheels, and sprockets. Additionally, wire is placed horizontally on top of the concertina rolls or coils.
1271. Where is tanglefoot used?
- a. Tanglefoot is used where concealment is essential and to prevent the enemy from crawling between fences and in front of emplacements. (See figure H-25, page H-52.) The obstacle should be employed in a minimum width of 32 feet. The pickets should be placed at irregular intervals of 2 ½ feet to 10 feet. The height of the barbed wire should vary between 9 to 30 inches. Tanglefoot should be sited in scrub, if possible, using bushes as supports for part of the wire. On open ground, short pickets should be used.
1272. What are the MOPP levels?
- a. The standard MOPP are—
  - b. MOPP0. Carry a protective mask, and ensure that individual protective gear is within arm's reach.
  - d. MOPP1. Suit worn. Mask, gloves and boots carried.
  - e. MOPP2. Suit and boots worn. Gloves and mask carried.
  - f. MOPP3. Suit, boots and mask worn. Gloves carried.
  - g. MOPP4. All protection worn.
1273. What are considerations for making MOPP reduction decisions?
- a. Leaders know that they cannot expect the same work rates in MOPP4 as they achieved in MOPP0. They reevaluate the ability to meet mission requirements and communicate changes to the force. MOPP reduction decisions are between

the most difficult to make because of the many considerations that affect the final decision.

- b. Commanders must evaluate the situation from the Soldier and mission perspectives. Factors include the criticality of the current mission, potential effects of personnel exposure, and the impact on the casualty care system.
- c. Leaders determine the appropriate MOPP level by assessing mission variables and weighing the impact of increased protection levels. Higher headquarters provide MOPP level directives to subordinate elements.
- d. When a CBRN attack is recognized, everyone in the company team must receive the warning and assume the appropriate MOPP level. Soldiers in immediate danger need warnings they can see or hear. The alarm or signal must be simple and unmistakable if it is to produce a quick and correct reaction.
- e. If a CBRN hazard is located, the contaminated area should be marked. The CBRN warning and reporting system and standardized contamination markers contribute to orderly warning procedures. Warning methods include automatic alarms, vocal alarms (a shout of "GAS" is the most frequently used alarm), nonvocal alarms (horn blasts or banging of metal-to-metal objects), and visual alarms, most commonly the appropriate hand-and-arm signals.

1274. What are unmasking procedures when M256 kits are available?

- a. If an M256/M256A1 detector kit is available, use it to supplement unmasking procedures. The kit does not detect all agents; therefore, proper unmasking procedures, which take approximately 15 minutes, must still be used. If all tests with the kit (to include a check for liquid contamination using M8 detector paper) have been performed and the results are negative, use the following procedures:
- b. The senior person should select one or two Soldiers to start the unmasking procedures. If possible, they move to a shady place; bright, direct sunlight can cause pupils in the eyes to constrict, giving a false symptom.
- c. Selected Soldiers unmask for 5 minutes, then clear and reseal masks.
- d. Observe the Soldiers for 10 minutes. If no symptoms appear, request permission from higher headquarters to signal "ALL CLEAR."
- e. Watch all Soldiers for possible delayed symptoms. Always have first-aid treatment immediately available in case it is needed.

1275. What are unmasking procedures when a M256/M256A1 kit is unavailable?

- a. If an M256/M256A1 kit is not available, the unmasking procedures take approximately 35 minutes. When a reasonable amount of time has passed after the attack, find a shady area; use M8 paper to check the area for possible liquid contamination. Conduct unmasking using these procedures:
- b. The senior person selects one or two Soldiers. They take a deep breath and break their mask seals, keeping their eyes wide open. After 15 seconds, the Soldiers clear and reseal their masks. Observe them for 10 minutes. If no symptoms appear, the same Soldiers break seals, take two or three breaths, and clear and reseal masks. Observe them for 10 minutes.
- c. If no symptoms appear, the same Soldiers unmask for 5 minutes, then remask.

- d. If no symptoms appear in 10 minutes, request permission from higher headquarters to signal "ALL CLEAR." Continue to observe all Soldiers in case delayed symptoms develop.

Intellectual Infantryman