

Chapter 14 Test

Name: _____ Date: _____

Directions: Write the correct letter on the blank before each question.

- _____ 1. When firefighters apply water to the hot gas layer in a compartment, it will: (670) [4.3.10]
- A. push fire into adjacent rooms.
 - B. increase the potential for flashover.
 - C. reduce the radiant heat flux from the upper layer.
 - D. increase the radiant heat flux from the upper layer.
- _____ 2. What can happen if excess steam is produced inside the structure as a result of applying water on the fire? (670) [4.3.10]
- A. Pyrolysis process speeds up
 - B. Disruption of the thermal layering
 - C. Increase in the potential for backdraft or flashover
 - D. Transition from fuel-limited to ventilation-limited conditions
- _____ 3. In which situation would fuel removal be a likely method of extinguishment? (670) [4.3.19]
- A. Grass fire
 - B. Warehouse fire
 - C. Fire in a one-story house
 - D. Fire in an apartment building
- _____ 4. Closing the valve on a natural gas tank to stop the emission of gaseous fuel would be an example of: (670) [4.3.10]
- A. fuel removal.
 - B. oxygen exclusion.
 - C. temperature reduction.
 - D. chemical flame inhibition.

-
- _____ 5. When a firefighter controls doors and windows during fire attack, it is an example of: (671) [4.3.10, 4.3.11]
- A. fuel removal.
 - B. oxygen exclusion.
 - C. temperature reduction.
 - D. chemical flame inhibition.
- _____ 6. Clean agents extinguish fire by: (672) [4.3.10]
- A. removing the burning fuel.
 - B. cooling the burning material.
 - C. interrupting the combustion reaction.
 - D. removing oxygen from the compartment.
- _____ 7. If you are positioned to make fire attack, which condition would be important to communicate to your supervisor or the Incident Commander? (673) [4.3.10]
- A. Smoke that changes from gray to black
 - B. Presence of bystanders at the perimeter
 - C. Amount of radiant heat felt by firefighters
 - D. All team members' PASS devices are functioning
- _____ 8. Firefighters should ensure that PASS devices are on and operating properly: (673) [4.3.10]
- A. before entering the structure.
 - B. before applying water to the fire.
 - C. once they reach the seat of the fire.
 - D. once they reach their "point of no return."
- _____ 9. Which tool or piece of equipment is a member of a fire attack team likely to carry? (674) [4.3.10]
- A. PPV fan
 - B. Hand light
 - C. Power saw
 - D. Salvage cover

- _____ 10. Before entering the building or fire area, the firefighter who is assigned to the nozzle of the attack hose should: (674) [4.3.8, 4.3.10]
- A. open the nozzle fully to check for adequate flow.
 - B. wait to call for water until the entry door is propped open.
 - C. open the nozzle hallway once he or she reaches the fire compartment.
 - D. wait to call for water until they are several steps inside the structure.
- _____ 11. What should the attack team do if they open the door to a structure and observe a low neutral plane and turbulent smoke? (676) [4.3.10]
- A. Close the door and use a different entrance to the structure
 - B. Apply water to the hot gas layer, but stay outside the structure
 - C. Apply water to the hot gas layer while advancing to the seat of the fire
 - D. Perform negative pressure ventilation to remove smoke from the compartment
- _____ 12. Why is it dangerous to work below the hot gas layer without attempting to cool it? (676) [4.3.10]
- A. The smoke contains fuel, and it may ignite at any time.
 - B. The hotter the gas layer is, the more toxic the fumes are.
 - C. The hot gas layer can break open windows, creating ventilation issues.
 - D. The hot gas layer will continue to raise and cause damage to the ceiling and floors above.
- _____ 13. If a firefighter aims a solid stream at an item that is on fire and applies water until the item is no longer burning, he or she is using a(an): (677) [4.3.8, 4.3.10]
- A. direct attack.
 - B. indirect attack.
 - C. transitional attack.
 - D. combination attack.

- _____ 14. If a firefighter aims a solid or straight stream at the ceiling so that water will rain down and extinguish the burning item, he or she is using a(an): (678) [4.3.10]
- A. direct attack.
 - B. indirect attack.
 - C. transitional attack.
 - D. combination attack.
- _____ 15. Why should firefighters be outside the fire compartment when making an indirect attack from the interior? (678) [4.3.10]
- A. A large volume of steam will be created.
 - B. The hose stream will not reach the target if it is inside the fire compartment.
 - C. Large volumes of water will make walking areas slippery and dangerous.
 - D. The fire compartment will not be large enough to conduct an effective indirect attack.
- _____ 16. If a firefighter uses a Z pattern to apply water to the hot gas layer and then the burning fuels at the floor level, he or she is using a(an) _____ fire attack. (679) [4.3.10]
- A. direct
 - B. indirect
 - C. transitional
 - D. combination
- _____ 17. Which type of fire attack involves applying water from the outside of the structure in order to reduce the potential for flashover and make the environment more survivable for an interior attack crew? (679) [4.3.10]
- A. Direct attack
 - B. Indirect attack
 - C. Transitional attack
 - D. Combination attack

- _____ 18. When performing a transitional attack, a _____ stream may be the best choice because it will not upset the thermal layering as much as other stream patterns. (679) [4.3.10]
- A. fog
 - B. broken
 - C. straight
 - D. shielded
- _____ 19. Which statement describes a safety guideline for operations at a multistory building? (681) [4.3.10]
- A. Firefighters must not use an elevator to get to the fire floor.
 - B. Firefighters must not connect the hose to the standpipe on the fire floor.
 - C. If the standpipe is in a protected stairwell, the hose must be connected on the floor above the fire.
 - D. If the structure does not have a standpipe, firefighters must avoid using the stairwell nearest to the fire.
- _____ 20. Which is a characteristic of fires in residential basements? (682) [4.3.10]
- A. The safest path into a basement fire is through an interior enclosed stairwell.
 - B. Residential basement fires tend to be fuel-limited rather than ventilation-limited.
 - C. Sounding the floor is the best way to determine whether it is safe to work on the floor above a basement fire.
 - D. Firefighters working on the floor above the basement fire are at an increased risk of floor collapse.
- _____ 21. Which method of attack would put firefighters at the least risk when fighting a residential basement fire? (683) [4.3.10]
- A. Entering through an enclosed interior stairwell
 - B. Applying water through an exterior basement window
 - C. Entering on the first floor and installing a cellar nozzle
 - D. Advancing down the stairwell while using a fog stream for protection

- _____ 22. Which is an example of protecting interior exposures? (684) [4.3.10]
- A. Applying water to the hot gas layer
 - B. Performing negative pressure ventilation
 - C. Deactivating sprinklers once the fire is extinguished
 - D. Closing a door between the fire and unaffected area
- _____ 23. In a building that is protected by control mode sprinklers, firefighters need to: (685) [4.3.14]
- A. turn the system off before entering the building.
 - B. stay back and allow the sprinklers to put out the fire.
 - C. complete suppression before turning off the system.
 - D. perform fire attack from outside the fire compartment.
- _____ 24. Which action would be taken first when performing suppression operations at a structure protected by automatic sprinklers? (685) [4.3.14]
- A. Testing the sprinkler system
 - B. Connecting the pumper to the FDC
 - C. Advancing attack hose to the fire floor
 - D. Closing the main sprinkler control valve
- _____ 25. At what point should a firefighter close a sprinkler system's main control valve? (686) [4.3.13, 4.3.14]
- A. Upon arrival at the structure
 - B. Immediately prior to fire attack
 - C. Once the pumper has been connected to the FDC
 - D. Once the fire is under control and the IC gives the order
- _____ 26. Which is a characteristic of outside screw and yoke (OS&Y) valves? (686) [4.3.14]
- A. They have a plate with the words OPEN or SHUT to indicate the valve's operation.
 - B. The threaded portion of the screw disappears below the yoke when the valve is open.
 - C. The threaded portion of the screw is visible beyond the yoke when the valve is open.
 - D. They have a circular disk on top of the valve housing that indicates the valve's operation.

- _____ 27. Which type of sprinkler control valve extends horizontally through the wall with the target and valve operating nut on the outside of the building? (687) [4.3.14]
- A. Post indicator valve (PIV)
 - B. Wall post indicator valve (WPIV)
 - C. Post indicator valve assembly (PIVA)
 - D. Outside screw and yoke valve (OS&Y)
- _____ 28. Which tool or piece of equipment is commonly used to stop the flow of water from an activated sprinkler? (687) [4.3.14]
- A. Pike pole
 - B. Halligan tool
 - C. Spanner wrench
 - D. Wooden wedges
- _____ 29. Why should the flow of water be stopped from activated sprinklers once the fire has been extinguished? (687) [4.3.13, 4.3.14]
- A. Prevent reignition of the fire
 - B. Prevent the sprinkler system from overloading
 - C. Reduce the wear and tear on the sprinkler system
 - D. Minimize water damage to the structure and its contents
- _____ 30. Who is in charge of turning building utilities back on after fire fighting operations are complete? (688) [4.3.18]
- A. Fire Fighter I
 - B. Incident Commander
 - C. Utility company personnel
 - D. Building owner or manager
- _____ 31. A firefighter should not turn off electricity to an entire building until he or she is ordered to, because it: (689) [4.3.18]
- A. would be an inconvenience to occupants to have the utilities turned off.
 - B. can cause unforeseen issues with forcible entry and overhaul operations.
 - C. makes it harder for firefighters to work inside the building when there is no electricity.
 - D. is necessary to operate essential systems such as elevators and HVAC systems.

- _____ 32. What is the purpose of a lockout/tagout device? (689) [4.3.18]
- A. Identify the firefighter in charge of shutting down utilities
 - B. Identify the area where the main power supply is located
 - C. Prevent power from being turned back on before it is safe
 - D. Prevent automatic sprinklers from accidentally being activated
- _____ 33. What hazard do solar panels present to firefighters? (690) [4.3.18]
- A. Directing water at a solar panel will generate a large amount of steam.
 - B. Panels may still generate power after the main power supply is shut off.
 - C. They are prone to spontaneous ignition and will explode without warning.
 - D. Directing water at a solar panel will cause it to release gases that can cause immediate harm.
- _____ 34. When turning off the natural gas supply to a structure,; (691) [4.3.18]
- A. close the valve by turning the tang until it is 90 degrees to the pipe.
 - B. close the valve by turning the tang until it is directly in line with the pipe.
 - C. a second firefighter must be standing by in case a hazardous situation arises.
 - D. call the gas company and wait for them to arrive before attempting to close the valve.
- _____ 35. Once an LPG fire or emergency has been terminated, firefighters should NOT: (692) [4.3.18]
- A. wear SCBA.
 - B. open the LPG tank control valve.
 - C. remain in the immediate incident area.
 - D. leave the hot zone until the utility company arrives.
- _____ 36. When turning off the water to a residential structure, firefighters should: (692) [4.3.18]
- A. wear full PPE and SCBA.
 - B. have a backup hoseline standing by.
 - C. obtain a special water shut-off key from the water department.
 - D. use caution because the electrical ground wire may be connected to the water pipe.

- _____ 37. Which statement describes operations at a vehicle fire? (694) [4.3.7]
- A. Vehicle fires pose fewer hazards to firefighters than structure fires do.
 - B. SCBA must be worn because of the toxic smoke and vapors that are produced.
 - C. The first priority at a vehicle fire is to enter the vehicle and turn off the ignition.
 - D. A hazardous materials team must be called in for every vehicle incident due to the presence of flammable fuels.
- _____ 38. Why should the bumper of a burning car be avoided? (695) [4.3.7]
- A. Heated bumper struts may explode and injure those nearby.
 - B. Items inside the bumper are prone to spontaneous ignition.
 - C. It is the location with the highest concentration of toxic gases.
 - D. It is the location of the vehicle that is most likely to reignite after extinguishment.
- _____ 39. Extinguish any fire near the _____ first when attacking a vehicle fire. (696) [4.3.7]
- A. gas tank
 - B. occupants
 - C. windshield
 - D. engine compartment
- _____ 40. When attacking a passenger vehicle fire, _____: (696) [4.3.7]
- A. a 2½-inch (65 mm) or larger hoseline is required.
 - B. firefighters should approach from downhill and downwind.
 - C. a backup hoseline should be deployed as quickly as possible.
 - D. firefighters should extinguish fire in the engine compartment first.
- _____ 41. What vehicle hazard may require you to isolate the area and request assistance of a hazardous materials team? (697) [4.3.7]
- A. Downed electrical lines
 - B. A hybrid-electric battery
 - C. Fire in the engine compartment
 - D. Large-capacity saddle fuel tanks

- _____ 42. Which action would be performed when overhauling a vehicle fire? (697) [4.3.7]
- A. Stabilizing the vehicle
 - B. Setting up scene control devices
 - C. Checking for hidden fires in the trunk
 - D. Shutting down the vehicle's electrical system
- _____ 43. What should be done as part of vehicle overhaul after the fire has been extinguished? (697) [4.3.7]
- A. Secure the air bags
 - B. Remove the bumper struts
 - C. Check for electrical backfeed
 - D. Apply foam to leaking fuels or fluids
- _____ 44. If there is a fire in the trunk of a car, the first step is to: (697) [4.3.7]
- A. use hydraulic tools to pry open the trunk.
 - B. try to open the trunk using the release lever.
 - C. cut out the lid of the trunk using a power saw.
 - D. use a piercing nozzle to apply water to the fire.
- _____ 45. When fighting a vehicle fire, a piercing nozzle can safely be used to: (698) [4.3.7]
- A. extinguish fire under the hood.
 - B. apply a foam layer over pools of spilled fuel.
 - C. combat fires in the wheel well of a hybrid vehicle.
 - D. provide protection when advancing toward the vehicle.
- _____ 46. If there is a fire in the undercarriage of a vehicle,,: (699) [4.3.7]
- A. Class A foam should be used to extinguish the fire.
 - B. firefighters should retreat and let the fire burn itself out.
 - C. a hazardous materials team must be called before approaching the vehicle.
 - D. direct a stream at the ground to deflect water upward toward the underside of the vehicle until the fire is extinguished.

- _____ 47. How can firefighters identify whether or not a vehicle uses an alternative fuel? (699) [4.3.7]
- A. Some alternative fuel vehicles have a visible logo on the front or rear of the vehicle.
 - B. Firefighters must memorize the models of cars that use alternative fuel sources.
 - C. Alternative fuel vehicles have fuel tanks that are a different shape than other vehicles.
 - D. All alternative fuel vehicles are required to have DOT placards identifying their fuel source.
- _____ 48. If an LNG tank on a vehicle leaks or is on fire, firefighters should: (701) [4.3.7]
- A. stay clear of the vapor cloud.
 - B. allow the fire to burn itself out.
 - C. proceed with operations as normal.
 - D. apply water using a narrow fog pattern.
- _____ 49. Which hazard is associated with a hybrid electric vehicle that is on fire? (702) [4.3.7]
- A. Toxic fumes
 - B. Invisible flames
 - C. Flammable air bags
 - D. Fuel tanks that rupture easily
- _____ 50. Which type of alternative vehicle fuel is colorless, odorless, and has an invisible flame during the day? (704) [4.3.7]
- A. CNG
 - B. LNG
 - C. Biodiesel
 - D. Hydrogen
- _____ 51. Which hazard is a concern when fighting fires in exterior stacked or piled Class A materials? (704) [4.3.8]
- A. Collapse
 - B. Flashover
 - C. Backdraft
 - D. Electrocution

- _____ 52. When attacking fire in stacked and piled materials _____, then apply water or Class A foam until extinguished. (705) [4.3.8]
- A. apply Class B foam or clean agents
 - B. use hooks or pike poles to break apart material
 - C. advance until you are at least 10 feet (3 m) from the fire's edge
 - D. advance until you are at least 5 feet (1.5 m) from the fire's edge
- _____ 53. When a shed or other unattached structure is on fire, the primary objective is to: (706) [4.3.8]
- A. protect exposures.
 - B. remove the fuel source.
 - C. fight the fire from the interior.
 - D. save the contents of the building.
- _____ 54. If there is a concern that an unattached structure contains hazardous chemicals or flammable/combustible liquids, firefighters should: (706) [4.3.8]
- A. protect exposures and let the structure self-extinguish.
 - B. call for a hazardous materials team to perform salvage.
 - C. go inside to check for victims, and then vacate the area.
 - D. use foam to extinguish the fire and coat the hazardous materials.
- _____ 55. Biological waste and aerosol cans are hazards likely to be present in: (706) [4.3.8]
- A. storage shed fires.
 - B. trash container fires.
 - C. below grade structure fires.
 - D. above grade structure fires.
- _____ 56. Trash container fires are likely to be fought using Class A foam or: (707) [4.3.8]
- A. Halon.
 - B. Purple K.
 - C. Class B foam.
 - D. a master stream.

- _____ 57. The three main influences on ground cover fire behavior are fuel type, topography, and: (708) [4.3.19]
- A. weather.
 - B. time of day.
 - C. number of personnel available.
 - D. type and amount of resources available.
- _____ 58. A slow-moving, smoldering fire that burns dead organic matter on the soil in forested areas is called a _____ fire. (709) [4.3.19]
- A. flank
 - B. crown
 - C. ground
 - D. surface
- _____ 59. Which describes a crown fire? (710) [4.3.19]
- A. Slow-moving, crawling fire in low-lying grass and vegetation
 - B. Wind-driven, high-intensity fire that moves through the tree tops
 - C. Fast-moving fires in surface fuels such as moss and grass clippings
 - D. Smoldering fires that can go undetected for months before they start flaming
- _____ 60. With regard to ground cover fires, (710) [4.3.19]
- A. heavy fuels burn faster than light fuels.
 - B. tightly compacted fuels burn slower than loosely piled fuels.
 - C. the more moisture a fuel contains, the more intensely it will burn.
 - D. the fire will spread more quickly when it can jump between patches of fuels that are spread apart.
- _____ 61. How does wind affect ground cover fire development? (710) [4.3.19]
- A. Provides fresh air that speeds up combustion
 - B. Helps extinguish the flames and cool the area
 - C. Affects the moisture content of live and dead fuels
 - D. Pushes smoke away from the fire area to allow for easier extinguishment

- _____ 62. How does topography (the earth's surface features) affect the spread of ground cover fires? (711) [4.3.19]
- A. Fires on flat terrain are prone to the chimney effect.
 - B. Fires spread faster going downhill than they do going uphill.
 - C. Fires in canyons tend to spread slower because of a lack of wind and air flow.
 - D. Fires on southern exposures receive more heat from the sun and burn faster than other fires.
- _____ 63. The part of a ground cover fire opposite the head that usually burns slowly and quietly is called the: (712) [4.3.19]
- A. heel.
 - B. flank.
 - C. black.
 - D. origin.
- _____ 64. Patches of unburned fuel inside the perimeter of a ground cover fire are called: (713) [4.3.19]
- A. flanks.
 - B. greens.
 - C. islands.
 - D. fingers.
- _____ 65. Which action would be done when creating a fire line? (714) [4.3.19]
- A. Throw all burned material into the black.
 - B. Scatter all unburned material into the black.
 - C. Stop applying water to the fire until the line is complete.
 - D. Clear only the top layer of burned fuels from the ground.
- _____ 66. Which is a component of the LCES technique for situational awareness at ground cover fires? (714) [4.3.19]
- A. Lightning
 - B. Communications
 - C. Exposures
 - D. SCBA

- _____ 67. During ground cover fire fighting operations, if an oil well or a pipeline is broken and exposed to fire, firefighters should: (717)
[4.3.19]
- A. apply Class A or B foam to any burning fuels.
 - B. apply water from a distance using a master stream device.
 - C. treat the situation like any other ground cover fire incident.
 - D. treat the situation like a hazardous materials incident and withdraw.
- _____ 68. Most line-of-duty deaths at ground cover fires result from: (717)
[4.3.19]
- A. lightning.
 - B. heart failure.
 - C. falling debris.
 - D. smoke inhalation.