

Chapter 13 Test

Name: _____ Date: _____

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

- _____ 1. Reduced water volume or pressure from hydrants can result from: (587) [4.3.15]
- A. open water mains.
 - B. open isolation valves.
 - C. greater demand than the system can provide.
 - D. the use of both wet-barrel and dry-barrel hydrants in the same system.
- _____ 2. Standard fire hydrants have at least one large steamer connection and: (588) [4.3.15]
- A. one smaller steamer connection.
 - B. two smaller steamer connections.
 - C. two hose outlet nozzles for 2½-inch (65 mm) couplings.
 - D. four hose outlet nozzles for 2½-inch (65 mm) couplings.
- _____ 3. A dry-barrel hydrant only has water in it when: (588) [4.3.15]
- A. a water main has broken.
 - B. a clapper valve has been opened.
 - C. the temperature outside is above freezing.
 - D. the stem nut is operated to open the control valve.
- _____ 4. Where are wet-barrel hydrants usually installed? (588) [4.3.15]
- A. Rural areas without an alternate water supply
 - B. Rural areas where multiple departments may need to respond
 - C. Climates that have a higher than average number of below-freezing days
 - D. Climates that do not have long periods of below-freezing temperatures

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- _____ 5. What should the fire department do when a hydrant is taken out-of-service? (589) [4.3.15]
- A. Remove the stem nut
 - B. Attempt to repair the hydrant
 - C. Contact the hydrant manufacturer
 - D. Place "out-of-service" tags on the hydrant
- _____ 6. A hydrant wrench is primarily used to: (590) [4.3.15]
- A. repair the hydrant if it is out-of-service.
 - B. apply a hose clamp near the hydrant outlet.
 - C. tighten hose couplings at the apparatus outlets.
 - D. remove discharge caps from the hydrant outlets.
- _____ 7. Hydrants must be opened and closed slowly in order to prevent: (592) [4.3.15]
- A. friction loss.
 - B. loss of suction.
 - C. water hammer.
 - D. hydrant erosion.
- _____ 8. What must be done when shutting down a dry-barrel hydrant? (593) [4.3.15]
- A. Verify that all of the water drains out
 - B. Request help from a hydrant technician
 - C. Request help from the hydrant manufacturer
 - D. Leave at least 10 percent of the water in the hydrant
- _____ 9. How can a 4½-inch (115 mm) intake hose be connected to a 2½-inch (65 mm) connection on the hydrant? (593) [4.3.15]
- A. Attach a gate valve
 - B. Use a reducer coupling
 - C. Use a two-way coupling
 - D. Attach a water thief appliance
- _____ 10. Lakes, ponds, and rivers are all static water sources that: (595) [4.3.15]
- A. may provide water through drafting operations.
 - B. can be used if chemicals are added to purify the water.
 - C. may not be used for drafting because the water is nonpotable.
 - D. should be used as a last resort because of potential contaminants.

- _____ 11. What are attached to hard-suction hose during drafting operations in order to prevent debris from entering the pump? (595) [4.3.15]
- A. Gate valves
 - B. Drafting valve
 - C. Intake strainers
 - D. Siamese appliance
- _____ 12. The three necessary parts of a water shuttle operation are the dump site at the fire, the fill site at the water source, and: (595-596) [4.3.15]
- A. jet siphon devices.
 - B. a secondary static water source.
 - C. collapsible storage tanks to hold the water.
 - D. mobile water supply apparatus to haul the water.
- _____ 13. How should a portable water tank for a mobile water supply operation be set up? (596-597) [4.3.15]
- A. Gated wyes must be attached to the supply hose
 - B. Intake strainers must be attached to the supply hose
 - C. Must be set up downhill and downwind from the fire scene
 - D. Must allow easy access from multiple directions, but not block other apparatus from the fire scene
- _____ 14. Which piece of equipment is used to quickly drain water from LDH hose before it is stored? (598) [4.3.15]
- A. Hose bridge
 - B. Chafing block
 - C. LDH drainage spout
 - D. LDH drainage hose roller
- _____ 15. Which piece of equipment is designed to prevent damage to hose when vehicles must drive over it? (599) [4.3.15]
- A. Hose strap
 - B. Hose roller
 - C. Hose bridge
 - D. Chafing block

- _____ 16. What is a chafing block designed to do? (599) [4.3.15]
- A. Provide a protective surface over hose when vehicles must drive over it
 - B. Protect fire hose from abrasions caused when charged hoselines rub against other surfaces
 - C. Carry, pull, and handle charged hoselines or secure charged hoselines to other objects
 - D. Protect uncharged hose as it is being pulled over sharp corners of windowsills and roof edges
- _____ 17. Which piece of equipment provides a more secure means to handle charged hoselines when applying water? (600) [4.3.8]
- A. Hose roller
 - B. Hose strap
 - C. Hose ramp
 - D. Chafing block
- _____ 18. Which appliance has one female inlet and multiple male outlets to divide one supply hoseline into two or more hoselines? (600-601) [4.3.15]
- A. Wye appliance
 - B. Siamese appliance
 - C. Gate valve appliance
 - D. Water thief appliance
- _____ 19. Which type of valve is used in siamese appliances and fire department connections (FDC) to allow water to only flow in one direction? (601) [4.3.15]
- A. Ball valve
 - B. Gate valve
 - C. Clapper valve
 - D. Butterfly valve
- _____ 20. Which device would be used if multiple supply lines need to be merged into one hoseline, such as when LDH is not available to overcome friction loss in a long hose lay? (601) [4.3.15]
- A. Wye appliance
 - B. Siamese appliance
 - C. Gate valve appliance
 - D. Water thief appliance

- _____ 21. Which type of hose fitting would be used to connect two male couplings or two female couplings to each other? (601) [4.3.15]
- A. Wye
 - B. Adapter
 - C. Reducer
 - D. Siamese
- _____ 22. Which type of hose fitting would be used to connect a smaller hoseline to a larger supply line? (601) [4.3.15]
- A. Reducer
 - B. Adapter
 - C. Siamese
 - D. Water thief
- _____ 23. In a forward lay, the hose is deployed: (601-603) [4.3.15]
- A. using a minimum of four firefighters.
 - B. using a minimum of three firefighters.
 - C. from the incident scene to the water source.
 - D. from the water source to the incident scene.
- _____ 24. Which hose lay allows the pumper to remain at the incident scene so that hose, equipment, and tools are readily available if needed? (601-603) [4.3.15]
- A. Reverse lay
 - B. Forward lay
 - C. Standard lay
 - D. Combination lay
- _____ 25. When hose is laid at the incident scene and the pumping apparatus proceeds to the water source, the operation is known as a: (603-605) [4.3.15]
- A. reverse lay.
 - B. forward lay.
 - C. standard lay.
 - D. backward lay.

- _____ 26. The _____ lay can delay initial fire attack because attack hose, tools and equipment must be removed from the apparatus and placed at the fire scene before the apparatus proceeds to the water source. (603-605) [4.3.15]
- A. reverse
 - B. forward
 - C. standard
 - D. combination
- _____ 27. When using the minuteman load, the hose: (606) [4.3.15]
- A. will drag along the ground toward the incident scene.
 - B. will require more personnel to carry than other loads.
 - C. is more likely to become tangled than with other loads.
 - D. should deploy with fewer kinks and bends than other loads.
- _____ 28. Burst hoselines will cause water pressure to decrease or stop and: (607) [4.3.10]
- A. should be repaired.
 - B. should be replaced.
 - C. can be used, but only as supplemental hoselines.
 - D. can be used as long as there is still some pressure.
- _____ 29. Which method is used to quickly and easily advance charged hoselines at ground level? (607) [4.3.10]
- A. Working line drag
 - B. Accordion line drag
 - C. Minuteman line drag
 - D. Triple layer line drag
- _____ 30. When advancing hoseline into a building, why is it important to keep doors closed until you are ready to enter the structure? (608) [4.3.10]
- A. Saves time
 - B. Requires fewer firefighters
 - C. Helps prevent changes to the flow path
 - D. Enables the IC to quickly identify points of entry

- _____ 31. Advancing an uncharged hoseline down a flight of stairs is only recommended when: (608-609) [4.3.10]
- A. the fire is minor or not present.
 - B. there is an immediate need for water.
 - C. the primary search has been completed.
 - D. there are at least four firefighters on the hoseline team.
- _____ 32. What is the purpose of a standpipe? (609-610) [4.3.10]
- A. Prevents water hammer when drafting
 - B. Combats friction loss in high-rise buildings
 - C. Serves as a safe connection point for hoselines when fighting fires in underground spaces
 - D. Provides a place to connect hose where preconnected hoselines cannot reach
- _____ 33. In which situation would a standpipe need to be improvised by stretching a hoseline up an interior stairwell or up the side of the building? (610-611) [4.3.10]
- A. The building on fire is taller than three stories.
 - B. The existing standpipe is more than 50 years old.
 - C. The building is in a location without a hydrant nearby.
 - D. An earthquake renders the existing standpipe inoperable.
- _____ 34. In order to avoid overloading a ladder when advancing a hoseline up it,; (612) [4.3.10]
- A. only one firefighter should be on a section of ladder at a time.
 - B. no more than two firefighters should be on a section of the ladder at a time.
 - C. only uncharged hoselines should be hoisted.
 - D. utility straps should be used to secure uncharged hoselines when hoisting.
- _____ 35. Which use of a hose stream would protect firefighters and property from heat caused by the fire? (613) [4.3.10]
- A. Creating a water curtain
 - B. Performing hydraulic ventilation
 - C. Removing fuel from the fire compartment
 - D. Dispersing smoke and gases from the fire compartment

- _____ 36. The shape of a hose stream is determined by the: (613) [4.3.10]
- A. type of nozzle.
 - B. size of the hoseline.
 - C. length of the hose lay.
 - D. type of pumping apparatus.
- _____ 37. Which is a characteristic of water as an extinguishing agent? (614) [4.3.10]
- A. Extinguishes fire by removing the fuel
 - B. Extinguishes fire by smothering the fuel
 - C. Lower heat-absorbing capacity than most other common extinguishing agents
 - D. Higher heat-absorbing capacity than most other common extinguishing agents
- _____ 38. Water absorbs heat and converts to steam most rapidly when it is: (614) [4.3.10]
- A. applied in a fog pattern.
 - B. applied as a straight stream.
 - C. discharged from a straight tip nozzle.
 - D. discharged from a smooth bore nozzle.
- _____ 39. Which is a characteristic of smooth bore nozzles? (615) [4.3.10]
- A. Prone to clogging with debris
 - B. Cannot be used to apply compressed-air foam
 - C. Cannot be adjusted to different stream patterns
 - D. Operate at higher nozzle pressures than fog nozzles
- _____ 40. Which is a characteristic of fog nozzles? (616-618) [4.3.10]
- A. Cannot be used to apply foam
 - B. Can be adjusted to different stream patterns
 - C. Tend to cause hoselines to kink due to less nozzle pressure
 - D. Operate at higher nozzle pressures than smooth bore nozzles
- _____ 41. How is the rate of discharge for a manually adjustable fog nozzle changed? (617) [4.3.10]
- A. Pushing the bale forward or backward slowly
 - B. Rotating the nozzle tip to choose a wider or narrower pattern
 - C. Rotating the selector ring to the desired gpm (L/min) setting
 - D. Signaling the pump operator to reduce or increase the pressure

- _____ 42. Which type of nozzle can be driven through stucco, block, wood, or lightweight steel to access fires in concealed spaces? (618) [4.3.10]
- A. Cellar nozzle
 - B. Piercing nozzle
 - C. Smooth bore nozzle
 - D. Adjustable pattern fog nozzle
- _____ 43. Which type of nozzle that is designed for use on fires in confined spaces has a rotating head that distributes water in a circular pattern? (618) [4.3.10]
- A. Cellar nozzle
 - B. Piercing nozzle
 - C. Smooth bore nozzle
 - D. Adjustable pattern fog nozzle
- _____ 44. As part of general nozzle inspection and maintenance, firefighters should: (618-619) [4.3.10]
- A. replace the swivel gasket each time after use.
 - B. be able to perform technical maintenance or repairs.
 - C. look for external damage to the nozzle body and tip.
 - D. clean the nozzle with industrial strength cleaner after each use.
- _____ 45. Nozzles should be stored with: (618-619) [4.3.10]
- A. the hoses inside apparatus compartments.
 - B. the control valve bale in the open position.
 - C. the control valve bale in the closed position.
 - D. some water remaining inside so they don't rust.
- _____ 46. When a _____ is used with a smooth bore nozzle, turbulence can affect the quality of the solid stream if the valve is left partially open. (619) [4.3.10]
- A. ball valve
 - B. slide valve
 - C. large-diameter hoseline
 - D. small diameter hoseline

- _____ 47. Which type of nozzle valve controls the discharge pattern of the stream? (620) [4.3.10]
- A. Ball valve
 - B. Slide valve
 - C. Gate valve
 - D. Rotary control valve
- _____ 48. Handline streams have flows that discharge: (620-621) [4.3.10]
- A. less than 40 gpm (160 L/min).
 - B. from 25 to 300 gpm (100 to 1 200 L/min).
 - C. from 40 to 350 gpm (160 to 1 400 L/min).
 - D. more than 350 gpm (1 400 L/min).
- _____ 49. Which describes a master stream device? (621) [4.3.10]
- A. Appliance used to increase pressure when drafting from a static water source
 - B. Small red hoselines carried on some apparatus that are used for car fires or small trash fires
 - C. Large-volume hose streams created by appliances such as apparatus-mounted deck guns
 - D. Appliances attached to the underside of aerial platforms which allow multiple hoses to be operated from the platform at one time
- _____ 50. Which type of hose stream is produced from a smooth bore nozzle? (622) [4.3.10]
- A. Fog stream
 - B. Solid stream
 - C. Fixed stream
 - D. Straight stream
- _____ 51. Which is a characteristic of fog streams? (623-624) [4.3.10]
- A. Shorter reach than solid streams
 - B. Longer reach than straight streams
 - C. Less affected by wind than solid or straight streams
 - D. Expose less water surface area than straight or solid streams

- _____ 52. When compared with a narrow-angle fog pattern, a wide-angle fog pattern: (623-624) [4.3.10]
- A. has a shorter reach than a narrow-angle fog pattern.
 - B. is less affected by wind than a narrow-angle fog pattern.
 - C. has more forward velocity than a narrow-angle fog pattern.
 - D. is more effective at suppressing fires than a narrow-angle fog pattern.
- _____ 53. Which type of hose stream is created by specialized nozzles such as cellar nozzles, piercing nozzles, or chimney nozzles? (624) [4.3.10]
- A. Fog stream
 - B. Solid stream
 - C. Broken stream
 - D. Straight stream
- _____ 54. What affect can wind have on hose streams? (625) [4.3.10]
- A. Shorten the stream's reach
 - B. Increase the stream's reach
 - C. Make the stream more compact
 - D. Make the stream more effective
- _____ 55. When would a single firefighter be assigned to operate an attack hoseline? (625) [4.3.8]
- A. Attic fire
 - B. Basement fire
 - C. Fire in a trash pile
 - D. Standpipe operations
- _____ 56. What is the minimum number of firefighters required to operate an attack line for interior structural operations? (625) [4.3.10]
- A. One
 - B. Two
 - C. Three
 - D. Four
- _____ 57. When two firefighters are operating a small hoseline, the backup firefighter should be positioned: (625) [4.3.7, 4.3.8, 4.3.10]
- A. at least five feet (1.5 m) behind the nozzle firefighter.
 - B. on the same side of the hose as the nozzle firefighter.
 - C. at least eight feet (2.5 m) behind the nozzle firefighter.
 - D. on the opposite side of the hose as the nozzle firefighter.

- _____ 58. One firefighter may be assigned to operate a large hoseline: (626) [4.3.10]
- A. to protect exposures.
 - B. to suppress a basement fire.
 - C. only if smaller hoselines are also in use.
 - D. only if a master stream device is also in use.
- _____ 59. What can firefighters do to help absorb nozzle reaction when operating a large hoseline? (627) [4.3.10]
- A. Lean slightly forward
 - B. Stand with both feet together
 - C. Rest the hoseline on the ground
 - D. Utilize a hose roller or hose bridge
- _____ 60. When using a fog nozzle, as the fog pattern widens, the: (627) [4.3.7, 4.3.10]
- A. friction loss in the hoseline becomes less.
 - B. friction loss in the hoseline becomes greater.
 - C. nozzle reaction decreases and makes the nozzle easier to handle.
 - D. nozzle reaction increases and makes the nozzle harder to handle.
- _____ 61. What is caused by friction loss? (627-628) [4.3.7, 4.3.8, 4.3.10]
- A. Increased nozzle reaction
 - B. Decreased nozzle reaction
 - C. Lower water pressure at the pump
 - D. Lower water pressure at the nozzle
- _____ 62. Friction loss is affected by the: (627-628) [4.3.7, 4.3.8, 4.3.10]
- A. weather conditions.
 - B. geographic location.
 - C. length of the hose lay.
 - D. number of firefighters handling the hoseline.
- _____ 63. How can friction loss be overcome? (627-628) [4.3.7, 4.3.8, 4.3.10]
- A. Decreasing the size of the hose
 - B. Decreasing the pressure at the pump
 - C. Laying a longer stretch of hose from the hydrant
 - D. Removing kinks and sharp bends from the hoseline

- _____ 64. What happens when the nozzle is above the elevation of the fire pump, such as when operating on the second story of a building? (628) [4.3.7, 4.3.8, 4.3.10]
- A. Loss of water pressure
 - B. Increase in water pressure
 - C. Increase in chance of water hammer occurring
 - D. Decrease in chance of water hammer occurring
- _____ 65. What causes water hammer? (628) [4.3.7, 4.3.8, 4.3.10]
- A. Closing the nozzle slowly
 - B. Closing the nozzle suddenly
 - C. Increasing the length of the hose lay
 - D. Decreasing the length of the hose lay
- _____ 66. When placing a master stream device, (628-631) [4.3.10]
- A. aim the stream so that it enters the building horizontally.
 - B. always use at least four firefighters to transport the appliance.
 - C. always use at least three firefighters to transport the appliance.
 - D. aim the stream so that it deflects off the ceiling or overhead objects.
- _____ 67. Which is a characteristic of master stream devices? (628-631) [4.3.10]
- A. Multiple LDH supply lines are required.
 - B. They cannot flow as much water as handlines inside the structure.
 - C. The person operating the device must be certified to at least the Fire Fighter II level.
 - D. They deliver a large volume of water which can increase the chance of structural collapse.