



Coffee Break Training

2nd Quarter Self-Evaluation

July 7, 2009 CBTs 2009-14 to 2009-26



1. The mathematical formula for computing the volume in gallons of a static water source is $L \times W \times D \times 7.48 = \text{total gallons}$, where L is the source's length, W is the source's width, and D equals the source's depth. **True or False** (*Coffee Break Training 2009-19*)
2. A pipe that rises vertically and supplies a single sprinkler is known as a(n) _____.
(*Coffee Break Training 2009-20*)
 - a. sprig
 - b. spring
 - c. upright
 - d. miniriser
3. NFPA[®] 13, *Standard for the Installation of Sprinkler Systems*, requires that main drain test outlets be installed at locations that will permit flow tests of water supplies and connections. **True or False** (*Coffee Break Training 2009-14*)
4. Automatic drains (ball drips) in fire protection systems must be installed in the vertical orientation. **True or False** (*Coffee Break Training 2009-17*)
5. Once a sprinkler system has been installed, or has been altered significantly, the work must be pressure tested to find and correct any leaks. This testing is known as _____ testing. (*Coffee Break Training 2009-15*)
 - a. hydropneumatic
 - b. barometric
 - c. pneumatic
 - d. hydrostatic
 - e. required
6. According to NFPA[®] 13, sprinkler drain pipes must be arranged to avoid exposing any part of the sprinkler system to freezing. **True or False** (*Coffee Break Training 2009-14*)
7. The word "carboy" is derived from the Persian word *qarabah* or from the Arabic word *qarraba*, which are translated to mean "vessel used to transport hazardous materials." **True or False** (*Coffee Break Training 2009-18*)
8. A ball drip is one type of automatic drain valve that may be attached to the supply pipe for the fire department connection on a water-based fire suppression system where a fire department connection is required. **True or False** (*Coffee Break Training 2009-17*)
9. If obstructions, contaminants, or dust accumulation become so severe that an electric motor cannot start when energized, a situation known as a "locked rotor condition" can occur that may increase the motor temperature dramatically. **True or False** (*Coffee Break Training 2009-20*)
10. According to NFPA[®] 13, when first installed, the pipe between the fire department connection and the check valve in the inlet pipe must be hydrostatically tested in the same manner as the remainder of the sprinkler system. **True or False** (*Coffee Break Training 2009-15*)
11. If polyurethane spray foam insulation is applied, it must be at least _____ inches (mm) from a heat-emitting device where the temperature can exceed 180 °F (82°C). (*Coffee Break Training 2009-16*)
 - a. 1, (25.4)
 - b. 2, (50)
 - c. 3, (76.2)
 - d. 4, (102)



12. Research has shown that at the intersection of the wall and ceiling there may be a “dead zone” caused by smoke stratification where combustion products cannot reach fire protection devices. Therefore, sprinklers and other automatic detection devices must be located a specific distance down from the ceiling when they are installed on a wall. **True or False** (Coffee Break Training 2009-24)
13. According to the model codes, an atrium is “a large volume space created by floor openings connecting two or more stories and is closed at the top.” **True or False** (Coffee Break Training 2009-23)
14. An automatic drain should be installed at the lowest point of the fire department connection pipe. **True or False** (Coffee Break Training 2009-17)
15. If polyurethane spray foam insulation is applied in an attic or crawl space where the only access is for utility service, it must be protected by an ignition barrier consisting of 1½-inch-thick (38 mm) mineral fiber insulation; ¼-inch (6.4 mm) wood structural panel, particleboard, or hardboard; 3/8-inch (9.5 mm) gypsum wallboard; corrosion-resistant steel having a base metal thickness of 0.016 inch (0.4 mm) or other approved material that is installed so the foam plastic is not exposed. **True or False** (Coffee Break Training 2009-16)
16. Carboys for handling hazardous materials have capacities generally ranging in size from ____ to ____ gallons (L) and may be made of glass, plastic, or steel. (Coffee Break Training 2009-18)
- a. 1, 3 (3.8, 11.4)**
b. 5, 15 (19, 57)
c. 6, 12 (22.7, 45.4)
d. 10, 25 (38, 95)
17. According to NFPA®13, an automatic sprinkler system having a 6-inch (152.4 mm) riser, should have a minimum _____ -inch(mm) main drain outlet. (Coffee Break Training 2009-14)
- a. 2 (51)**
b. 3 (76.2)
c. 4 (102)
d. 6 (152)
18. For some sidewall sprinklers, especially in residential occupancies, the installation range beneath the ceiling may be as little as 2 to 6 inches (51.2 to 152 mm). **True or False** (Coffee Break Training 2009-24)
19. The 2007 edition of NFPA® 13 requires that sprigs _____ “feet (m) or longer shall be restrained against lateral movement.” (Coffee Break Training 2009-20)
- a. 1 (0.305)**
b. 2 (0.6)
c. 3 (0.914)
d. 4 (1.2)
20. An electric motor is made up of four basic components: the rotor assembly, shaft, bearings, and _____. (Coffee Break Training 2009-20)
- a. capacitor**
b. motivator
c. electrode
d. stator winding.
21. NFPA® 13, requires that a hydrostatic test occur at a minimum of _____psi (bar) and there can be no pressure loss for 2 hours. (Coffee Break Training 2009-15)
- a. 100 (6.89)**
b. 150 (10.4)
c. 175 (12)
d. 200 (13.8)
22. Commercial kitchen hood grease drip trays or gutters should be pitched to drain into an approved container that is accessible or removable for cleaning. NFPA® 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, requires that this be an enclosed metal container with a capacity not exceeding _____ gal (L). (Coffee Break Training 2009-26)
- a. 0.5 (1.9)**
b. 1 (3.8)
c. 1.5 (5.7)
d. 2 (7.6)

23. Sidewall sprinklers must be installed between 4 and 12 inches (102 and 305 mm) below the ceiling, depending upon the listing of the individual sprinkler. **True or False** (*Coffee Break Training 2009-24*)
24. According to NFPA®13, fire department connections shall be “on the street side of buildings and shall be located and arranged so that hoselines can be readily and conveniently attached to the inlets without interference from any nearby objects, including buildings, fences, posts, or other fire department connections. The location shall be based on the requirements of the fire department.” **True or False** (*Coffee Break Training 2009-22*)
25. If the normal water pressure in a neighborhood is 195 psi (13.4 bar), a sprinkler system must be hydrostatically tested to at least _____ psi (bar). (*Coffee Break Training 2009-15*)
- 200 (13.8)**
 - 220 (15.1)**
 - 245 (17)**
 - 250 (17.2)**
26. Shafts for enclosed stairways, elevators, hoistways, plumbing, electrical, air conditioning, or other equipment are included in the model codes definition of an “atrium.” **True or False** (*Coffee Break Training 2009-23*)
27. According to NFPA®13, sprinkler drain pipes must be approved corrosion-resistant pipe and must be used where drain pipes run underground. **True or False** (*Coffee Break Training 2009-14*)
28. For emergency planning purposes, you want to compute the volume of the community swimming pool. You know the pool’s length is 125 feet (38.1 m), its width is 45 feet (13.7 m), and its average depth is 8 feet (2.43 m). What is its capacity in gallons (L)? (*Coffee Break Training 2009-19*)
- 45,000, (170,344).**
 - 125,000, (473,176).**
 - 336,600, (1,274,710).**
 - 500,000, (1,892,760).**
29. While not a common means of exposure protection in today’s building techniques, fire shutters still are recognized in the codes and standards as “opening protectives.” Fire shutters generally occur in three types: swinging door, horizontal or vertical sliding door, and rolling steel door. **True or False** (*Coffee Break Training 2009-25*)
30. The rapidly spinning rotor assemblies in an electric motor occasionally overheat and can catch fire when they are run continuously for a long period of time. **True or False** (*Coffee Break Training 2009-20*)
31. According to NFPA®13, sprinkler drains may connect to sanitary sewers directly. **True or False** (*Coffee Break Training 2009-14*)
32. Smoke detectors should be installed in accordance with specific listing or manufacturers’ criteria. If none exists, the installer should refer to NFPA® 72, *National Fire Alarm Code*®, for guidance that states wall-mounted smoke detectors must be installed between 4 (102 mm) and _____ inches (mm) below the ceiling, measured to the top of the detection device. (*Coffee Break Training 2009-24*)
- 6 (152)**
 - 10 (254)**
 - 12 (305)**
 - 24 (610)**
 - none of the above; smoke detectors may not be wall-mounted**
33. If polyurethane spray foam insulation is used in a space where there is normal and routine human activity, it must be protected by a 15-minute thermal barrier consisting of ½-inch (12.7 mm) gypsum wallboard or equivalent protection that meets the local building code for thermal barriers and will limit the average temperature of the unexposed side to no more than 250 °F (121 °C) after 15 minutes of exposure. **True or False** (*Coffee Break Training 2009-16*)

34. In order to protect occupants and minimize the risk of fire spread, atriums must have which of the following special fire protection requirements in the model building codes? (*Coffee Break Training 2009-23*)

- a. **They must be separated from the rest of the building by 1-hour fire-resistive fire barriers.**
- b. **Glass walls may be used in place of fire barriers if they have fire sprinklers at closely-spaced intervals on both sides.**
- c. **The entire building must be sprinklered.**
- d. **The atrium must have an active or passive smoke control system designed to keep accumulated smoke at least 6 feet (1.8 m) above the means of egress walking surface for at least 20 minutes.**
- e. **All of the above.**