

Chapter 3 Test

Name: _____ Date: _____

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

- _____ 1. With regard to local building codes, firefighters should be aware that: (78) [4.3.12]
- A. an AHJ can amend model building codes to meet local needs.
 - B. most jurisdictions lack formalized building code requirements.
 - C. building codes are standardized across the United States and Canada.
 - D. local building codes must be modeled after the International Building Code®.
- _____ 2. Type _____ can be expected to remain structurally stable longer than other types during a fire. (78) [4.3.12]
- A. I
 - B. II
 - C. III
 - D. IV
- _____ 3. When responding to a fire in a Type I construction building, firefighters should be aware that: (78) [4.3.12]
- A. the roof may be extremely difficult to penetrate.
 - B. the building will be vulnerable to rapid structural collapse.
 - C. steel structural members are likely to fail quickly under fire conditions.
 - D. industrial glues used in the construction process are highly flammable.
- _____ 4. Type II construction buildings are composed of: (79) [4.3.12]
- A. prefabricated wood components.
 - B. large-dimensional lumber or laminated wood.
 - C. metal and wood components that increase the fuel load.
 - D. noncombustible materials that do not add to the fuel load.

-
- _____ 5. In a Type III construction building, the interior walls, columns, beams, floors, and roofs are completely or partially constructed of: (79) [4.3.12]
- A. steel.
 - B. wood.
 - C. gypsum.
 - D. concrete.
- _____ 6. What condition often found in Type III construction buildings is likely to negatively influence fire behavior? (79) [4.3.12]
- A. Void spaces between wall studs
 - B. Large-dimensioned wood beams
 - C. Concrete roofs that are difficult to penetrate
 - D. Reinforced concrete columns and decorative arches
- _____ 7. Type IV buildings are resistant to structural collapse because of the: (81) [4.3.12]
- A. use of open-web floor joists.
 - B. use of noncombustible interior finishes.
 - C. thickness of the reinforced concrete walls.
 - D. mass of the heavy timber structural members.
- _____ 8. Which characteristic of Type IV construction buildings can contribute to the intensity of a fire once it starts? (81) [4.3.12]
- A. Precast concrete columns
 - B. High concentration of wood
 - C. Many voids or concealed spaces
 - D. Unprotected steel framing members
- _____ 9. Which construction classification includes buildings with exterior load bearing walls composed entirely of wood and is commonly referred to as *wood frame* construction? (81) [4.3.12]
- A. Type II
 - B. Type III
 - C. Type IV
 - D. Type V

- _____ 10. Type V construction buildings may have a veneer of stucco, brick, or stone that: (81) [4.3.12]
- A. provides little fire protection.
 - B. offers the appearance of a Type I building.
 - C. significantly enhances the structural support.
 - D. produces dark smoke and adds to the fire load.
- _____ 11. The most common type of factory built home that firefighters will encounter is the _____ home. (83) [4.3.12]
- A. mobile
 - B. pre-cut
 - C. modular
 - D. panelized
- _____ 12. What is one construction requirement of newer factory built homes that has helped to reduce fire loss and residential fatalities? (83) [4.3.12]
- A. Lighter fuel load than conventional structures
 - B. Fewer internal walls to create compartmentation
 - C. Gypsum board instead of wood paneling as an interior finish
 - D. Open crawl spaces which provide an additional oxygen source
- _____ 13. Which type of factory-built homes are assembled on-site from components constructed of foam insulation sandwiched between sheets of plywood? (84) [4.3.12]
- A. Mobile homes
 - B. Pre-cut homes
 - C. Modular homes
 - D. Panelized homes
- _____ 14. Which safety hazard are firefighters most likely to find in the space between the ceiling and the roof? (85) [4.3.12]
- A. Electrical wiring
 - B. Photovoltaic cells
 - C. Concrete decking
 - D. Bowstring trusses

- _____ 15. Floors at ground level may consist of _____ or a floor assembly made up of joists over a crawl space. (85) [4.3.12]
- A. steel
 - B. bricks
 - C. gypsum board
 - D. a reinforced concrete slab
- _____ 16. When an unprotected opening for pipes or wiring is made through a fire wall,; (85) [4.3.4]
- A. a secondary fire wall must be put in place.
 - B. a fire suppression system must be installed.
 - C. the protection provided by the fire wall is reduced or eliminated.
 - D. the fire wall becomes more effective at blocking smoke and flames.
- _____ 17. Which type of danger do stairs present to firefighters during low-visibility conditions? (87) [4.3.12]
- A. Fall hazard
 - B. Inhalation risk
 - C. Collapse hazard
 - D. Contamination risk
- _____ 18. Limited means of egress and limited ventilation are two reasons that fires are more dangerous in _____ than in other compartments. (87) [4.3.12]
- A. attics
 - B. kitchens
 - C. stairways
 - D. basements
- _____ 19. Stairs that are part of the required means of egress and are built to resist the spread of fire and smoke are known as: (88) [4.3.12]
- A. access stairs.
 - B. exterior stairs.
 - C. protected stairs.
 - D. convenience stairs.

- _____ 20. In order to maintain the integrity of a protected stairwell during a fire, firefighters should: (88) [4.3.12]
- A. maintain door control.
 - B. use an elevator instead.
 - C. use a different stairwell instead.
 - D. rely on installed pressurization systems.
- _____ 21. Because unprotected stairs are not enclosed with fire-rated construction, they: (90) [4.3.12]
- A. are likely to be the area of origin for a fire.
 - B. may serve as a flow path for fire and smoke.
 - C. should be used as the first option for occupant egress.
 - D. are the safest option for firefighters to use during a fire.
- _____ 22. Firefighters working on flat roofs are likely to encounter obstacles that penetrate through the roof, including: (91) [4.3.12]
- A. eaves.
 - B. trusses.
 - C. skylights.
 - D. gusset plates.
- _____ 23. Which roof style commonly has an elevated center along a ridge line and a roof deck that slopes down to the eaves? (91) [4.3.12]
- A. Flat roof
 - B. Arched roof
 - C. Pitched roof
 - D. Mansard roof
- _____ 24. A(An) _____ roof is often found on buildings that require a large open area to be covered without being supported by pillars or columns. (93) [4.3.12]
- A. arched
 - B. pitched
 - C. lantern
 - D. mansard

- _____ 25. Which type of roof supports are sections of lumber that are located directly under the roof decking? (93) [4.3.12]
- A. Beams
 - B. Trusses
 - C. Parapets
 - D. Gusset plates
- _____ 26. What is the purpose of a gusset plate? (93) [4.3.12]
- A. Serve as a connection point for wood trusses
 - B. Align pieces of roof decking and finishing materials
 - C. Prevent the spread of fire from the roof to interior spaces
 - D. Provide a stable surface from which firefighters may work
- _____ 27. When gusset plates are exposed to fire, they: (93) [4.3.12]
- A. reinforce the truss components.
 - B. are largely unaffected by the increased temperatures.
 - C. expand and strengthen the connection between components.
 - D. fall out after the wood burns away and no longer provide structural support.
- _____ 28. The open web design of truss joints: (94) [4.3.12]
- A. permits rapid fire spread in multiple directions.
 - B. restricts the spread of fire to the component's length.
 - C. provides greater stability than a heavy beam during a fire.
 - D. allows firefighters to operate longer on a roof during a fire.
- _____ 29. What type of truss is constructed of wood or metal and is generally used to support flat roofs and floor assemblies? (94) [4.3.12]
- A. Purlin truss
 - B. Gusset truss
 - C. Bowstring truss
 - D. Parallel chord truss
- _____ 30. The portion of the roof between the supports and the covering is called the: (95) [4.3.12]
- A. parapet.
 - B. roof deck.
 - C. scuttle hatch.
 - D. finishing material.

- _____ 31. Which type of roofing material develops its design strength when it is placed into forms and then hardens at the building site? (95-96) [4.3.12]
- A. Fiberglass
 - B. Gypsum board
 - C. Precast concrete
 - D. Cast-in-place concrete
- _____ 32. What type of material is often applied on top of roof decking? (97) [4.3.12]
- A. Asphalt shingles
 - B. Plywood sheathing
 - C. Reinforced concrete
 - D. Sprayable polystyrene
- _____ 33. When working on a roof, firefighters should be aware that roof openings or penetrations: (97) [4.3.12]
- A. are ineffective as a ventilation exit.
 - B. can add a significant live load to the roof.
 - C. are the most stable surface to work from on the roof.
 - D. may be difficult to access if they are locked or secured.
- _____ 34. Under fire conditions, a green roof can: (98) [4.3.12]
- A. act as an exit point for some types of ventilation.
 - B. accelerate structural failure due to the increased dead load.
 - C. provide the most stable surface from which to ventilate.
 - D. present a significant electrical hazard for firefighters on the roof.
- _____ 35. What are cold roofs designed to do? (98) [4.3.12]
- A. Provide clean and reliable electrical energy from a sustainable source
 - B. Facilitate drainage of rainwater in order to avoid flooding and water damage
 - C. Limit outside cold from penetrating the roof and impacting inside temperatures
 - D. Prevent interior heat from escaping to the attic space and melting snow on the roof

- _____ 36. The presence of photovoltaic roofs must be identified during preincident planning because they: (98) [4.3.12]
- A. may be beneficial during ventilation operations.
 - B. constitute a live load that stresses the structure of the building.
 - C. create a void that may conceal fire and allow it to burn undetected.
 - D. pose a significant trip and electrical hazard to firefighters working on the roof.
- _____ 37. A rain roof is described as a: (100) [4.3.12]
- A. pitched roof built over a flat roof for aesthetic or drainage purposes.
 - B. flat roof that replaces an original pitched roof on a residential structure.
 - C. flat roof that is designed to direct moisture off of the roof of a commercial building.
 - D. pitched roof that is designed to eliminate void spaces between the ceiling and the roof.
- _____ 38. On which type of roof are firefighters likely to be at risk of becoming trapped in the void space and falling through the original roof below? (100) [4.3.12]
- A. Rain roof
 - B. Cold roof
 - C. Green roof
 - D. Photovoltaic roof
- _____ 39. How can roof security features such as wired glass impact fire fighting operations? (100) [4.3.12]
- A. Increase the time required to conduct a primary search
 - B. Decrease the time required to conduct a primary search
 - C. Increase the time required to create ventilation openings
 - D. Decrease the time required to create ventilation openings
- _____ 40. Roof-mounted equipment such as _____ add a substantial load to the roof and increase the probability of collapse. (101) [4.3.12]
- A. dormers
 - B. HVAC units
 - C. wired security glass
 - D. automatic smoke vents

- _____ 41. Which type of door is usually required as an exit door in a means of egress? (102) [4.3.4]
- A. Sliding door
 - B. Folding door
 - C. Swinging door
 - D. Revolving door
- _____ 42. Sliding doors are often used as: (102) [4.3.4]
- A. vertical fire doors.
 - B. loading dock doors.
 - C. power-operated storefront entrances.
 - D. emergency exit doors for underground spaces.
- _____ 43. Why are sliding doors not allowed as part of the means of egress? (102) [4.3.4]
- A. They must be designed to lock automatically.
 - B. They slow travel of people through the door opening.
 - C. They do not effectively block the spread of smoke and fire.
 - D. They are too expensive to be practical in most occupancies.
- _____ 44. How are folding doors often used? (103) [4.3.4]
- A. Garage doors
 - B. Freight elevator doors
 - C. Dividers in large meeting rooms
 - D. Emergency exit doors in commercial buildings
- _____ 45. Which type of door is often used as a loading dock door? (103) [4.3.4]
- A. Vertical door
 - B. Rotating door
 - C. Swinging door
 - D. Revolving door
- _____ 46. How can revolving doors impact fire fighting operations? (104) [4.3.4]
- A. Trap firefighters inside after the fusible link melts
 - B. Prevent movement of hose or equipment into the building
 - C. Provide increased compartmentation and block fire spread
 - D. Allow for easier movement of personnel and equipment out of the building

- _____ 47. Which type of door consists of thin pieces of wood, glass, or louvers placed within a framed rectangular area? (104) [4.3.4]
- A. Slab door
 - B. Panel door
 - C. Solid-core door
 - D. Hollow-core door
- _____ 48. Which feature is often added to solid-core wood doors and can make forcing the door more difficult? (104) [4.3.4]
- A. A sheet metal layer added to increase security
 - B. Interior spacers made of a grid of plastic or fiberboard
 - C. Thin louvers placed within the main rectangular door area
 - D. Lexan® or Plexiglas® added to provide additional security
- _____ 49. Building codes require that: (105) [4.3.4]
- A. metal doors are made from aluminum.
 - B. glass doors are made from Plexiglas®.
 - C. glass doors are made from tempered glass.
 - D. metal doors are made from corrugated steel.
- _____ 50. What method is commonly used to construct metal doors? (105) [4.3.4]
- A. Hollow core with a steel or aluminum covering
 - B. Solid concrete core with honeycomb steel covering
 - C. Honeycomb steel core with corrugated steel covering
 - D. Solid concrete core with corrugated aluminum covering
- _____ 51. What material is commonly used to construct fire doors? (106) [4.3.4]
- A. Glass
 - B. Metal
 - C. Wood
 - D. Concrete

- _____ 52. What hazard do fire doors potentially pose to firefighters? (106) [4.3.4]
- A. Fire doors can automatically close if the fusible link melts.
 - B. Fire doors are unable to be penetrated with normal rescue tools.
 - C. Fire doors are ineffective at limiting the spread of fire between compartments.
 - D. Fire doors allow a large amount of smoke and particulates into uninvolved spaces.
- _____ 53. Overhead rolling steel fire doors are commonly used to: (106) [4.3.4]
- A. cover office windows in factory settings.
 - B. protect fire wall openings in industrial occupancies.
 - C. provide an exit location in a required path of egress.
 - D. reduce the amount of time needed to breach concrete walls.
- _____ 54. Horizontal sliding fire doors: (107) [4.3.4]
- A. require clear space around the door to ensure closure.
 - B. are commonly used in stairwells that require a fire door.
 - C. cannot be used to protect openings in walls in the required path of egress.
 - D. are the best choice to protect openings along the required path of egress.
- _____ 55. Which type of fire door is commonly used in stairwell enclosures? (107) [4.3.4]
- A. Swinging fire door
 - B. Terneplate fire door
 - C. Overhead rolling fire door
 - D. Horizontal sliding fire door
- _____ 56. Which window component consists of the members that form the perimeter of the window? (108) [4.3.4]
- A. Sill
 - B. Sash
 - C. Frame
 - D. Glazing

- _____ 57. Which window component is also known as glazing? (109) [4.3.4]
- A. Sash
 - B. Glass
 - C. Hardware
 - D. Side jambs
- _____ 58. A _____ window consists of only a frame and one glazed stationary sash. (109) [4.3.4]
- A. fixed
 - B. movable
 - C. projecting
 - D. single-hung
- _____ 59. Which type of window has two sashes that can move past each other in a vertical plane and is commonly used in residential occupancies? (109) [4.3.4]
- A. Jalousie window
 - B. Casement window
 - C. Single-hung window
 - D. Double-hung window
- _____ 60. Which type of window has one or two side-hinged sashes and usually opens outward? (109) [4.3.4]
- A. Picture window
 - B. Display window
 - C. Pivoting window
 - D. Casement window
- _____ 61. Which type of window has one or more top-hinged, outward-swinging sashes that permit the window to be opened during rain? (109) [4.3.4]
- A. Awning window
 - B. Pivoting window
 - C. Projecting window
 - D. Casement window

- _____ 62. A _____ window has separate parts that swing inward or outward when opened and is designed to provide the full area of the window opening for ventilation. (111) [4.3.4]
- A. picture
 - B. pivoting
 - C. single-hung
 - D. double-hung
- _____ 63. In order to ensure firefighter safety in case of rapid egress, window security bars and grilles: (111) [4.3.4]
- A. can be used to aid in emergency escape.
 - B. are prohibited by building codes in most jurisdictions.
 - C. should be removed after completing a primary search.
 - D. must be removed or disabled when interior operations begin.
- _____ 64. How are rolling steel shutters often used? (111) [4.3.4]
- A. Cover basement and attic windows
 - B. Protect openings in an industrial fire wall
 - C. Act as a secondary barrier on top of a fire door
 - D. Provide an exit opening in a required path of egress