Name: _____ Date: _____

1. How do heated gases move in a room?

   a) They rise to the ceiling and pool in the middle.
   b) They rise to the ceiling and spread outward.
   c) They spread outward to the walls then begin to rise.
   d) They fill the entire volume of the room uniformly.

2. What is it called when heated products of combustion flow outward and downward?

   a) Mushrooming b) Flashover c) Horizontal ventilation d) Thermal imbalance

3. What is the term for the main area of the fire?

   a) The point of origin
   b) The central arm
   c) The fire front wing
   d) The seat of the fire

4. What is positive-pressure ventilation?

   a) Pulling smoke out
   b) Blowing fresh air in
   c) Blowing products of combustion up
   d) Blowing products of combustion down

5. What is one term for the spread of fire from one floor to another via the exterior windows?

   a) Laddering b) Leap-frogging c) Stack-effect d) Trickling

6. What is the term for the open space between the ceiling of the top floor and the underside of the roof of a building?

   a) Roof chase b) Cockloft c) Head space d) Mantle

7. Modern wood-frame construction uses a technique that builds one floor at a time and inserts a plate between each floor that acts as a fire stop. What is this technique called?

   a) Flitch-plate b) Platform-frame c) Balustrade d) Awning

8. What is the rule of thumb, if any, relating smoke movement to fire temperature?

   a) There is no rule of thumb; these characteristics are unrelated.
   b) The hotter the fire, the slower the smoke moves.
   c) Smoke moves slowly at all temperatures up to about 1,350º F; above that it moves fast.
   d) The hotter the fire, the faster the smoke moves.

9. What type of ventilation is it that involves openings in roofs or floors so that heat, smoke, and toxic gases escape the structure in a vertical direction?

   a) Horizontal b) Mechanical c) Vertical d) Negative-pressure

10. In a horizontal ventilation situation, which windows should be opened first?

    a) Windward b) Crosswind c) Leeward d) Largest

11. What should fire fighters use to break glass in windows?

    a) One gloved fist
    b) A double gloved fist
    c) A hand tool such as a Halligan tool
    d) A piece of wood such as a table leg

12. What potential ventilation hazard do thermopane windows make more likely?

    a) Rollover b) Negative-pressure c) Backdraft d) Paradoxical ventilation

13. What is one problem with using doorways as ventilation openings?

    a) Doors can shut, no matter how well they are propped open.
    b) Since they are so much taller than they are wide, a venturi sets up negating the effect.
    c) They admit too much air sending the ventilation process out of control.
    d) This compromises entry and exit for human use.

14. Do HVAC systems help or hinder in ventilation operations?

    a) They help and should be used.
    b) They hinder and should be shut down immediately.
    c) It depends on the system.
    d) They can be used to extract, but not to introduce fresh air.

15. How can churning be eliminated during smoke ejection?

    a) By pulling the fan back a few inches
    b) By completely blocking the opening around the fan
    c) By moving the fan forward a few inches
    d) By keystoning the fan slightly up

16. What is one disadvantage of positive-pressure fans?

    a) They can spread the fire if used improperly.
    b) They require the products of combustion to pass through them.
    c) They block up an otherwise useable doorway.
    d) They require a team of fire fighters several minutes to hang, set up, and seal.

17. Where is water directed during hydraulic ventilation?

    a) Out a window or door
    b) In a window or door
    c) Just over the seat of the fire
    d) At the ceiling at a 45º angle over the seat of the fire

18. When a roof is sounded, what is a positive result indicating that the roof is probably safe?

    a) A firm rebound and reassuring sound
    b) A non-bounce dead strike
    c) A sharp vibration felt through the tool handle
    d) A kettle drum sound

19. What is the greatest danger to fire fighters performing vertical ventilation?

    a) Roof collapse
    b) Chimney collapse
    c) Fire lapping up from under an eave
    d) Obscuration of vision

20. What type of structure, used in roof supports, is composed of relatively small and lightweight components in a series of triangles?

    a) A mansard b) A truss c) A lintel d) An eave

Answer Key

1. b
2. a
3. d
4. b
5. b
6. b
7. b
8. d
9. c
10. c
11. c
12. c
13. d
14. c
15. b
16. a
17. a
18. a
19. a
20. b