Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. A handbook that sets minimum standards for electrical wiring is called the
   b. Journeyman’s Handbook
d. Workman’s Code

2. A unit of measure of the rate of flow of electricity through a wire is known as
   a. amperage
c. wattage
d. ohms

3. A unit of measure of electrical pressure is known as
   a. amperage
c. wattage
d. ohms

4. A unit of measure of electricity that is derived from multiplying volts and amps is called
   a. PSI
c. wattage
d. ohms

5. The measure of resistance in a circuit to the flow of an electric current is called
   a. amperage
c. wattage
d. ohms

6. A complete path through which electricity flows is called a
   a. conduit
c. conductor
d. fuse

7. A safety device which opens the circuit by tripping a switch is called a
   a. circuit breaker
c. breaker box
d. short circuit

8. A material that permits electricity to flow freely is called a/an
   a. outlet
c. volt
d. conductor

9. A panel located inside the house from which every circuit branches is called a/an
   a. ground fault panel
c. conductor panel
d. outlet panel

10. A laboratory that tests electrical wiring materials and devices to assure that the products meet minimum safety
    standards is called
      a. Underwriters Laboratory
c. Journeyman’s Laboratory
d. Electrical Conductors Laboratory

11. GFCI is an electrical device that stands for
    a. Ground Fault Circuit Information
c. Ground Fault Circuit Interrupter
d. Ground Feeder Circuit Interrupter

12. Steel or plastic pipe used to protect electrical wires
    a. PVC
c. conductors
d. conduit
13. An improper connection between hot and neutral wires or between hot wires:
   a. short circuit   c. tripped circuit
   b. blown circuit   d. branch circuit

14. The circuit between the breaker box and one or more outlets:
   a. feeder circuit   c. short circuit
   b. branch circuit   d. fault circuit

15. The circuit between one breaker box and another breaker box:
   a. feeder circuit   c. short circuit
   b. branch circuit   d. fault circuit

16. What is the trip level of a GFCI?
   a. 10 - 12 milliamperes   c. 4 - 6 milliamperes
   b. 5 amperes               d. 120 volts

17. How fast will a GFCI trip?
   a. 2 seconds              c. 1/2 of a second
   b. 5 seconds              d. 1/40 of a second

18. The type of cable used for direct burial of underground feeder wires is called
   a. Type NM               c. Type UFC
   b. Type UF               d. Type NMB

19. Most residential wiring is made of a material called
   a. copper                 c. aluminum
   b. iron                   d. steel

20. Most common size wire used to wire circuits in homes is
   a. # 14                   c. # 10
   b. # 12                   d. # 16

21. AWG stands for
   a. American Wire Gauge   c. American Wire Ground
   b. Alabama Wire Gauge    d. Automatic With Ground

22. An outlet box that can only hold one switch or one receptacle is called a/an:
   a. simple box             c. single box
   b. one gang box           d. independent box

23. An outlet box that can hold two switches or two receptacles or one switch and one receptacle is called a/an:
   a. double box             c. two gang box
   b. twin box               d. multi-box

24. Single-pole breakers are used for each _____ volt circuit.
   a. 240                     c. 75
   b. 500                    d. 120

25. Double-pole breakers are used for each _____ volt circuit.
   a. 240                     c. 75
   b. 500                    d. 120
26. Which of the following items would all operate off of 120 volts.
   a. TV, radio, clothes dryer, microwave and dishwasher
   b. TV, radio, hair dryer, microwave and dishwasher
   c. computer, lamp, electric razor, ceiling fan and 80 gallon hot water heater
   d. coffee maker, blender, DVD player, electric razor and large heat pump

27. A single-pole switch has
   a. one conductor terminal
   b. two conductor terminals
   c. three conductor terminals
   d. four conductor terminals

28. A three-way switch has
   a. one conductor terminal
   b. two conductor terminals
   c. three conductor terminals
   d. four conductor terminals

29. A four-way switch has
   a. one conductor terminal
   b. two conductor terminals
   c. three conductor terminals
   d. four conductor terminals

30. A double-pole switch is used for
   a. 120 volt circuits
   b. 240 volt circuits
   c. large air-conditioners
   d. all outside switches

31. Type NM cable stands for:
   a. non-metallic
   b. new metal
   c. non-metric
   d. non-matter

32. Which color of wire is called the “neutral” wire?
   a. red
   b. white
   c. black
   d. bare

33. Which color of wire is called the “hot” wire?
   a. blue
   b. white
   c. black
   d. bare

34. Which color of wire is considered to be an “additional hot” wire?
   a. red
   b. white
   c. black
   d. bare

35. The purpose of the “bare” wire is for:
   a. energy
   b. conducting electricity during the normal operation of the circuit
   c. wiring directly to the common terminal
   d. safety

36. A 12-2 WG cable would have the following:
   a. one black wire, one white wire and one bare wire
   b. one red wire, one white wire and one bare wire
   c. one blue wire, one white wire and one bare wire
   d. one black wire, one red wire and one white wire

37. A 12-3 WG cable would have the following:
   a. one blue wire, one red wire, one white wire and one bare wire
   b. one black wire, one red wire, one white wire and one blue wire
   c. one black wire, one red wire, one white wire and one bare wire
   d. one black wire, one blue wire, one white wire and one bare wire
38. Which two colors of wires would be used to wire a single-pole switch?
   a. black and white   c. black and red
   b. red and white   d. red and green

39. Which three colors of wires would be used to wire 3-way switches?
   a. red, black and green   c. red, black and white
   b. red, black and blue   d. black, white and blue

40. Which three colors of wires would be used to wire 4-way switches?
   a. red, black and green   c. red, black and white
   b. red, black and blue   d. black, white and blue

41. Which type switch would be used to control a light from only one location?
   a. single-pole switch   c. 3-way switch
   b. 2-way switch   d. 4-way switch

42. Which type switch would be used to control a light from two different locations?
   a. single-pole switch   c. 3-way switch
   b. 2-way switch   d. 4-way switch

43. Which type switches are used in pairs?
   a. single-pole switches   c. 3-way switches
   b. 2-way switches   d. 4-way switches

44. If a light is being controlled from three different locations, which combination of switches would be used?
   a. three 3-way switches   c. one 3-way and two 4-way switches
   b. one single-pole and two 4-way switches   d. two 3-way and one 4-way switch

45. If a light is being controlled from five different locations, which combination of switches would be used?
   a. three 3-way and two 4-way switches   c. one single-pole and four 4-way switches
   b. two 3-way and three 4-way switches   d. five single-pole switches

46. The black wire coming from the breaker box should be connected to which terminal on a 3-way switch?
   a. brass   c. neutral
   b. silver   d. common

47. The black wire coming from the breaker box should be connected to which terminal on a single-pole switch?
   a. it doesn’t matter   c. neutral
   b. silver   d. common

48. A 240 volt grain auger motor draws 17 amps under load, what size breaker should you install?
   a. single pole 20 amp   c. double pole 20 amp
   b. single pole 30 amp   d. double pole 15 amp

49. What is the recommended minimum size or capacity of a residential electrical service?
   a. 150 amps   c. 200 amps
   b. 100 amps   d. 400 amps

50. Which of the following materials is considered to be a good insulator?
   a. water   c. wire
   b. a GFCI   d. rubber
51. An instrument used to measure voltage values is called a/an:
   a. voltmeter  
   b. current reader  
   c. volt reader  
   d. volt sensor

52. A regulatory device which “steps up” or “steps down” voltage?
   a. diode  
   b. transformer  
   c. rectifier  
   d. voltmeter

53. A point on an electrical device where connections may be made?
   a. tab  
   b. groove  
   c. terminal  
   d. toggle

54. A station in a power transmission system at which electric power is transformed to a conveniently used form?
   a. substation  
   b. electric station  
   c. transtation  
   d. power station

55. A connection of two or more conductors is called a/an:
   a. terminal  
   b. lug  
   c. joint  
   d. splice

56. An excessive demand on an electric circuit is called a/an:
   a. overdemand  
   b. overwork  
   c. overload  
   d. resistance

57. An electrical instrument used to measure circuit resistance is called a/an:
   a. multimeter  
   b. ammeter  
   c. voltmeter  
   d. ohmmeter

58. An electrical box which is used to bring the wires to the location where an electrical device is installed is called a/an:
   a. junction box  
   b. outlet box  
   c. power box  
   d. accessory box

59. An electrical box with a blank cover used to contain splices of a circuit is called a/an:
   a. junction box  
   b. outlet box  
   c. terminal box  
   d. splice box

60. The main circuit which supplies all other circuits is called the
   a. main  
   b. supplier  
   c. transformer  
   d. head

61. A unit of measurement for the flow of light.
   a. wattage  
   b. voltage  
   c. amperage  
   d. lumen

62. One thousandth of an ampere can also be called
   a. multiampere  
   b. milliampere  
   c. 1,000 amperes  
   d. .01 amperes

63. A wire 4-6 inches in length used to connect a portion of a circuit is called a/an:
   a. extension wire  
   b. extra wire  
   c. jumper wire  
   d. junction wire
64. The term expressing frequency or cycles per second?
   a. volt  
   b. hertz  
   c. amp  
   d. watt

65. A flexible wire that can be pushed through conduit and around bends that is used to pull electrical wire through conduit?
   a. electrical cable  
   b. conduit puller  
   c. wire puller  
   d. fish tape

66. A threaded sleeve used to join the ends of two lengths of conduit?
   a. coupling  
   b. jointer sleeve  
   c. pipe connector  
   d. threaded connector

67. The ability of a current to flow continuously through a conductor?
   a. free energy  
   b. continuity  
   c. continuous flow  
   d. constant flow

68. The letters that refer to the quantity of heat required to raise one pound of water one degree Fahrenheit is called:
   a. AWG  
   b. NEMA  
   c. BTU  
   d. GFCI

69. BTU stands for
   a. Between The Unground  
   b. Boston Torque Unit  
   c. Battery Transformer Unit  
   d. British Thermal Unit

70. A flexible metal protective covering enclosing electrical conductors is called:
   a. armored cable  
   b. conduit  
   c. metallic cable  
   d. steel cable

71. A beginner in a trade is called a/an:
   a. tradesman  
   b. skilled worker  
   c. apprentice  
   d. journeyman

72. A tradesperson who has served his or her apprenticeship and is qualified to perform the skills of the trade is called a/an:
   a. tradesman  
   b. skilled worker  
   c. apprentice  
   d. journeyman

73. AC stands for:
   a. Alternative Current  
   b. Aternating Current  
   c. Amp Current  
   d. Alternating Cycles

74. DC stands for:
   a. Direct Current  
   b. Diode Current  
   c. Direct Continuity  
   d. Diverse Cycles

75. When attaching a conductor to a device terminal, the curved hook on the conductor must be connected:
   a. so that it has less than a 2/3 wrap  
   b. counterclockwise onto the terminal  
   c. clockwise onto the terminal  
   d. so that it overlaps

76. Conductors are spliced together by twisting the wires together in a ____________ direction.
   a. full  
   b. non-stop  
   c. counterclockwise  
   d. clockwise
77. As a general rule, the amount of insulation that should be stripped off of the wire to make a proper connection is:
   a. 7/8 inch  
   b. 1/8 inch  
   c. 5 inches  
   d. 1 foot

78. Which of the following materials is **not** something from which electrical boxes are made?
   a. metal 
   b. plastic 
   c. fiberglass 
   d. rubber

79. Which of the following is **not** a common electrical box shape?
   a. round 
   b. rectangle 
   c. triangle 
   d. octagon

80. Which of the following shapes for electrical boxes is used only for fixtures such as ceiling lights?
   a. round 
   b. rectangle 
   c. triangle 
   d. octagon

81. Which of the following shapes for electrical boxes is preferred for wall receptacles and switches?
   a. round 
   b. rectangle 
   c. triangle 
   d. octagon

82. Metal boxes usually have a _____________ finish.
   a. glossy 
   b. slick 
   c. bright 
   d. galvanized

83. Part of an electrical box that may be removed only to provide an opening for a cable, conduit or fitting?
   a. tabs 
   b. inserts 
   c. knockouts 
   d. junction

84. The purpose of electrical boxes having removable sides is so that they can be:
   a. broken down 
   b. stored easily 
   c. ganged 
   d. easily accessible

85. The electrical symbol “S” represents a:
   a. single-pole switch 
   b. safety switch 
   c. solid switch 
   d. special switch

86. The electrical symbol $S_2$ represents a:
   a. single-pole switch 
   b. two-way switch 
   c. double-pole switch 
   d. two sided switch

87. The electrical symbol $S_3$ represents a:
   a. three-way service 
   b. three-way signal 
   c. three-way solenoid 
   d. three-way switch

88. Which of the following is required to have in a bathroom?
   a. breaker box 
   b. GFCI 
   c. wall heater 
   d. water heater

89. Which of the following locations is a requirement to have a GFCI installed?
   a. shower 
   b. dining room 
   c. outside 
   d. bedroom
90. Which of the following locations is a requirement to have a GFCI installed?
   a. living room  
   b. crawl spaces  
   c. hallway  
   d. finished basements

91. Which of the following locations is a requirement to have a GFCI installed?
   a. workout room  
   b. study room  
   c. attic  
   d. within 6 feet of kitchen sink

92. Which of the following locations is a requirement to have a GFCI installed?
   a. living room  
   b. unfinished basements  
   c. within 10 feet of a fireplace  
   d. storm shelter

93. An electrical device used in fluorescent fixtures that furnishes the necessary starting and operating current to the bulb.
   a. solenoid  
   b. rectifier  
   c. relay  
   d. ballast

94. An octagon electrical box would have _____ sides.
   a. 8  
   b. 6  
   c. 5  
   d. 4

95. Which of the following would not be covered by the NEC?
   a. the size wire to use  
   b. the color of switches to use  
   c. the number of receptacles used in a room  
   d. the size of conduit to use

96. Which of the following would not be covered by the NEC?
   a. the type of tool used to strip wires  
   b. the height of the main disconnect  
   c. the locations where GFCI’s are required  
   d. the amount of voltage drop that is permitted in a circuit

97. The decrease in voltage in a circuit is known as
   a. decreased voltage  
   b. dropped voltage  
   c. voltage drop  
   d. current depletion

98. Which of the following tools would be the least used when wiring circuits?
   a. hammer  
   b. screwdriver  
   c. wire strippers  
   d. ratchet and socket

99. Which of the following tools would be the least used when wiring circuits?
   a. drill  
   b. nut driver  
   c. cable rippers  
   d. needle nose pliers

100. An overhead electrical line that runs form the transformer at the utility pole to a building is called the:
    a. service drop  
    b. incoming line  
    c. primary line  
    d. transformer line

101. PVC stands for:
    a. polyvinyl calcium  
    b. polyvinyl copper  
    c. polyvinyl chloride  
    d. polyethylene chloride

102. CPVC stands for:
    a. covered polyvinyl chloride  
    b. coated polyvinyl chloride  
    c. chlorinated polyethylene chloride  
    d. chlorinated polyvinyl chloride
103. PE pipe stands for:
   a. polyethylene
   b. polyevergreen
   c. pipe extension
   d. pipe elbow

104. ABS pipe stands for:
   a. Acrylonitrile Black Sleeve
   b. Acrylonitrile Brass Sleeve
   c. Acrylonitrile Butadiene Solder
   d. Acrylonitrile Butadiene Styrene

105. PEX pipe stands for:
   a. polyethylene with cross-links
   b. polyethylene xanthone
   c. polyethylene x-ray
   d. polyethylene xerox

106. In plumbing, ID stands for:
   a. has no meaning
   b. inside die
   c. inside diameter
   d. internal diameter

107. In plumbing, OD stands for:
   a. has no meaning
   b. outside die
   c. outside diameter
   d. outward diameter

108. Tape use on threaded fittings to prevent water leakage at pipe connections is called:
   a. sealant tape
   b. teflon tape
   c. black tape
   d. water tape

109. PVC pipe is ________ in color.
   a. white
   b. red
   c. beige
   d. black

110. CPVC pipe is ________ in color.
   a. white
   b. red
   c. beige
   d. black

111. PVC pipe is used for:
   a. drinking water only
   b. hot or cold water
   c. hot water only
   d. cold water only

112. CPVC is used for:
   a. drinking water only
   b. hot or cold water
   c. hot water only
   d. cold water only

113. Which of the following types of pipe does not require glue to be used?
   a. PVC
   b. CPVC
   c. PE
   d. ABS

114. Which of the following types of pipe is black in color:
   a. ABS
   b. galvanized
   c. PEX
   d. PVC

115. Which of the following types of pipe would be the most flexible?
   a. ABS
   b. PE
   c. PVC
   d. CPVC
116. Which of the following types of pipe would require soldering?
   a. galvanized  
   b. steel  
   c. soft copper  
   d. hard copper

117. Which of the following types of pipe can be flared?
   a. galvanized  
   b. steel  
   c. soft copper  
   d. hard copper

118. Which of the following types of pipe can use compression fittings?
   a. galvanized  
   b. steel  
   c. soft copper  
   d. hard copper

119. Which of the following statements is not true about ABS pipe?
   a. it used for drinking water  
   b. it is used for drains  
   c. it is used for vent piping  
   d. it is black in color

120. DWV pipe stands for:
   a. ditch, waste and vent  
   b. ditch, weather and vent  
   c. drain, weather and vent  
   d. drain, waste and vent

121. Removing burrs from the inside edge and the end of pipe is known as:
   a. reaming  
   b. deburring  
   c. grinding  
   d. sanding

122. Fittings containing a device that regulates flow or permits flow in only one direction are called:
   a. ferrules  
   b. unions  
   c. valves  
   d. sensors

123. A projecting rim or collar on a pipe or fitting to secure it in place is called a/an:
   a. bushing  
   b. flange  
   c. adapter  
   d. sleeve

124. A tubelike part that fits over another part is called a:
   a. nipple  
   b. rim  
   c. flange  
   d. sleeve

125. A bushing used on copper tubing for sealing a compression fitting is called a:
   a. rim  
   b. ferrule  
   c. flange  
   d. sleeve

126. Which of the following types of galvanized fittings would have a 90 degree angle and have male threads on one end and female threads on the other end?
   a. 90 degree elbow  
   b. 90 degree street elbow  
   c. 90 degree tapered elbow  
   d. 90 degree bushing elbow

127. Which of the following types of galvanized fittings would allow two different size pipes to be joined together and has male threads on one end and female threads on the other end?
   a. union  
   b. reducer  
   c. bushing  
   d. coupling

128. Which of the following types of galvanized fittings would allow two different size pipes to be joined together and has female threads on both ends?
   a. union  
   b. reducer  
   c. bushing  
   d. coupling
129. Which of the following types of plastic fittings has threads on one end and has to be glued on the other end?
   a. adapter       c. coupling
   b. bushing       d. union

130. Which of the following types of plumbing fittings has male threads and is used to close the end of a pipe?
   a. plug          c. stopper
   b. cap           d. bushing

131. Which of the following types of plumbing fittings has female threads and is used to close the end of galvanized pipe?
   a. plug          c. stopper
   b. cap           d. bushing

132. A plumbing fitting used to connect two pieces of similar plastic pipe is called a:
   a. coupling      c. cap
   b. joint         d. clamp

133. A plumbing fitting used to connect two pieces of similar galvanized pipe is called a/an:
   a. ferrule       c. union
   b. flange        d. plug

134. Which of the following is true about a plumbing fitting that has male threads?
   a. it has more strength       c. it has threads on the inside
   b. it is used only in galvanized pipe d. it has threads on the outside

135. Which of the following is true about a plumbing fitting that has female threads?
   a. it has less strength       c. it has threads on the inside
   b. it is used only in galvanized pipe d. it has threads on the outside

136. Galvanized pipe is coated with ________ to prevent rust.
   a. copper       c. plastic
   b. calcium      d. zinc

137. What is the purpose of the coating on galvanized pipe?
   a. to keep it from bending       c. to keep the sun from damaging it
   b. to make it easier to work with d. to keep it from rusting

138. A short piece of galvanized pipe threaded at each end is called a/an:
   a. extension       c. nipple
   b. fitting         d. pipe

139. Which type tool is used when making a bell shape on the end of copper tubing?
   a. flaring tool     c. flange tool
   b. bell tool        d. needle nose pliers

140. When threading steel pipe, which of the following should be used to reduce heat?
   a. oil             c. air
   b. water           d. WD-40

141. What is the purpose of applying a paste or flux to copper pipe and the fitting before soldering?
   a. to make the process easier       c. to make the pipe last longer
   b. to make the process faster       d. to make the solder penetrate the joint
142. In plumbing, the process of joining two pieces of metal using heat and the application of another metal of a different composition is called:
   a. manufacturing       c. soldering
   b. pipe joining         d. welding

143. When soldering copper pipe that is going to be used for drinking water, which of the following types of solder should be used?
   a. 50% lead and 50% tin       c. 100% lead
   b. 60% lead and 40% tin       d. lead-free

144. Why must copper pipe be cleaned before soldering?
   a. to make it easier to work with       c. to make it look better
   b. so solder will stick                  d. to increase the water flow

145. Which of the following is not recommended to be used when cleaning copper pipe before soldering?
   a. steel wool       c. emery cloth
   b. grinder         d. special wire brushes

146. When cleaning copper before soldering, what should be cleaned?
   a. the outside of the pipe and the inside of the fitting
   b. the inside of the pipe and the outside of the fitting
   c. only the inside of both pipe and fitting
   d. only the outside of both pipe and fitting

147. When applying heat for soldering copper, which of the following should be done?
   a. apply heat to the pipe only
   b. apply heat to the fitting only
   c. apply heat to the pipe and fitting
   d. apply heat to the solder

148. Which of the following types of pipe does not require a primer before gluing?
   a. ABS        c. CPVC
   b. PVC  d. they all require a primer

149. Which of the following terms is used to describe the wall thickness of plastic pipe?
   a. schedule          c. gauge
   b. diameter          d. depth

150. Which of the following types of PVC pipe is thicker?
   a. SCH 20     c. SCH 60
   b. SCH 40       d. SCH 80

151. Which type of plastic pipe is recommended for residential plumbing?
   a. SCH 10       c. SCH 60
   b. SCH 40        d. SCH 80

152. Water lines should be buried below the ________ ________ so they will not freeze.
   a. top soil          c. grass roots
   b. frost line        d. soft soil

153. The correct name for a vertical drainpipe that receives the discharge from toilets is called a:
   a. soil stack          c. toilet drain
   b. drain pipe          d. sewer pipe
154. The correct name for a vertical drainpipe that receives the discharge from anything other than toilets?
   a. soil stack  
   b. drain pipe  
   c. waste stack  
   d. sewer pipe  

155. Roof ________ are placed around stacks where they pass through a roof.
   a. clamps  
   b. flanges  
   c. collars  
   d. coverings  

156. The purpose of a roof flange around stacks is to:
   a. support the top of the stack  
   b. insulate the stack from the building structure  
   c. keep rain out of the stack  
   d. keep rain from entering the building through the stack hole  

157. Most Bureau of Health regulations require a minimum of ___________ slope for main house drains.
   a. 1 inch per foot  
   b. 1 inch per yard  
   c. 3/4 inch per foot  
   d. 1/4 inch per foot  

158. After digging a trench to bury a water line, it must be refilled. This is known as:
   a. replacing soil  
   b. filling in  
   c. recovering  
   d. backfilling  

159. A fitting installed in a drain pipe in order to have easy access to the pipe to clean out obstructions is called a/an:
   a. obstruction fitting  
   b. cleanout fitting  
   c. insert fitting  
   d. drain fitting  

160. A plumbing fitting installed in the drain system to prevent sewer gases from entering the building is called a:
   a. check valve  
   b. meter  
   c. trap  
   d. blockage  

161. Plumbing traps are of which two types:
   a. K and N  
   b. K and S  
   c. P and S  
   d. K and P  

162. A receptacle placed in the waste pipes of sinks to separate and retain grease from the water is called a:
   a. grease trap  
   b. grease basin  
   c. grease dump  
   d. waste trap  

163. A flexible auger used to remove clogs in plumbing drains is called a:
   a. twist  
   b. declogger  
   c. plunger  
   d. snake  

164. The type tool that is best to use when tightening plumbing fittings that have flat sides is the:
   a. monkey wrench  
   b. pipe wrench  
   c. lineman’s pliers  
   d. groove joint pliers  

165. The type tool that is best to use when tightening plumbing fittings that are easily damaged is the:
   a. monkey wrench  
   b. pipe wrench  
   c. lineman’s pliers  
   d. slip joint pliers  

166. The type tool that would be most useful for grabbing and holding galvanized pipe?
   a. monkey wrench  
   b. pipe wrench  
   c. adjustable wrench  
   d. lineman’s pliers
167. Which of the following is **not** true about PEX pipe?
   a. quicker to install than plastic pipe
   b. purchased in rolls instead of joints
   c. must be glued
   d. when water freezes, the pipe will expand preventing breakage

168. When cutting copper or galvanized pipe with a hand pipe cutter, the handle should be tightened about _____ turn for each revolution around the pipe.
   a. 1/8
   b. 1/4
   c. 1/2
   d. 1

169. Which type of pipe can be bent easily?
   a. copper tubing
   b. rigid copper
   c. galvanized
   d. PVC

170. Which type of pipe is easiest to repair?
   a. copper tubing that must be flared
   b. rigid copper
   c. galvanized
   d. PVC

171. Before a private sewerage system can be installed on a particular site, the ________ Department must approve the installation and issue a building permit.
   a. Police
   b. Chamber of Commerce
   c. Resource
   d. Health

172. In order for a building permit to be granted, the soil upon which a sewerage system is to be installed must pass a __________ test.
   a. soil
   b. water
   c. disposal
   d. percolation

173. What is the actual size of a 2 x 4?
   a. 1 1/2 x 3 1/2
   b. 1 3/4 x 3 1/2
   c. 1 1/2 x 3 1/4
   d. 1 3/4 x 3 3/4

174. What is the actual size of a 2 x 8?
   a. 1 1/2 x 7 1/2
   b. 1 1/2 x 7 1/4
   c. 1 3/4 x 7 1/4
   d. 1 3/4 x 7 1/2

175. What is the actual size of a 1 x 6?
   a. 1/2 x 5 1/2
   b. 3/4 x 5 1/2
   c. 1/2 x 5 1/4
   d. 1/2 x 5 3/4

176. What is the actual size of a 1 x 12?
   a. 1/2 x 11 1/4
   b. 1/2 x 11 1/2
   c. 3/4 x 11 1/4
   d. 3/4 x 11 1/2

177. What is the nominal size of a 2 x 4?
   a. 1 1/2 x 3 1/2
   b. 1 3/4 x 3 1/2
   c. 1 1/2 x 3 3/4
   d. 2 x 4

178. What is the nominal size of a 1 x 8?
   a. 3/4 x 7 1/4
   b. 3/4 x 7 1/2
   c. 1/2 x 7 1/4
   d. 1 x 8
179. How many board feet in a 2 x 4 x 12?
   a. 12  
   b. 96  
   c. 8  
   d. 6

180. How many board feet in a 2 x 6 x 10?
   a. 120  
   b. 10  
   c. 8  
   d. 6

181. How many board feet in a 1 x 4 x 6?
   a. 2  
   b. 24  
   c. 10  
   d. 6

182. How many board feet in 5 pieces of 2 x 4 x 12?
   a. 96  
   b. 480  
   c. 12  
   d. 40

183. How many board feet in 10 pieces of 2 x 6 x 8?
   a. 80  
   b. 8  
   c. 96  
   d. 960

184. What is the price of 10 pieces of 2 x 4 x 12 if the sawmill price is $250.00/mbdft?
   a. $2.00  
   b. $240.00  
   c. $80.00  
   d. $20.00

185. What is the price of 5 pieces of 2 x 6 x 10 if the sawmill price is $200.00/mbdft?
   a. $1.00  
   b. $10.00  
   c. $15.00  
   d. $100.00

186. The unit of measure used to designate the length of most nails is the word ________.
   a. diameter  
   b. caliber  
   c. gauge  
   d. penny

187. How long is a 20d nail?
   a. 2”  
   b. 3”  
   c. 4”  
   d. 5”

188. How long is a 16d nail?
   a. 3”  
   b. 3 1/2”  
   c. 2 1/2”  
   d. 4”

189. How long is a 10d nail?
   a. 2 1/2”  
   b. 2”  
   c. 3 1/2”  
   d. 3”

190. How long is a 8d nail?
   a. 2”  
   b. 2 1/4”  
   c. 2 1/2”  
   d. 3”

191. Which type nail would be used in masonry materials?
   a. duplex nail  
   b. plaster board nail  
   c. finishing nail  
   d. cut nail
192. Which type nail has two heads?
   a. box nail
   b. duplex nail
   c. cut nail
   d. roofing nail

193. Which type nail has the smallest head?
   a. roofing nail
   b. plaster board nail
   c. finishing nail
   d. common nail

194. Which type nail would be used for light household construction?
   a. box nail
   b. common nail
   c. cut nail
   d. lead head nail

195. Which type screw head would have the same shape on top of the head as it does underneath the head?
   a. oval
   b. round
   c. pan
   d. flat

196. Which one of the following are screws not classified by:
   a. penny
   b. gauge
   c. length
   d. type material made from

197. Which measurement is bigger?
   a. 3/4”
   b. 7/8”
   c. 1/4”
   d. 1/2”

198. Which measurement is bigger?
   a. 9/16”
   b. 1/4”
   c. 5/8”
   d. 5/16”

199. Which measurement is bigger?
   a. 15/32”
   b. 5/16”
   c. 1/4”
   d. 7/16”

200. Which screw is bigger?
   a. 6 gauge
   b. 8 gauge
   c. 10 gauge
   d. 12 gauge

201. Screw gauge refers to the _______ of the screw?
   a. type
   b. threads
   c. diameter
   d. length

202. Which of the following hand tools would be best suited for cutting the sole plate out of a doorway in a wall section?
   a. miter saw
   b. hand saw
   c. circular saw
   d. coping saw

203. What is another name for a framing square?
   a. builder’s square
   b. combination square
   c. try square
   d. carpenter’s square

204. What is the longest part of a framing square called?
   a. heel
   b. handle
   c. blade
   d. tongue
205. What is the shortest part of a framing square called?
   a. heel  
   b. handle  
   c. blade  
   d. tongue

206. What is the corner of a framing square called?
   a. heel  
   b. handle  
   c. blade  
   d. tongue

207. How long is the blade of a standard framing square?
   a. 24"  
   b. 20"  
   c. 16"  
   d. 12"

208. How long is the tongue of a standard framing square?
   a. 24"  
   b. 20"  
   c. 16"  
   d. 12"

209. How wide is the blade of a standard framing square?
   a. 2 1/2"  
   b. 2"  
   c. 1 1/2"  
   d. 1"

210. How wide is the tongue of a standard framing square?
   a. 2 1/2"  
   b. 2"  
   c. 1 1/2"  
   d. 1"

211. Which of the following would be found on a standard framing square?
   a. nail sizes  
   b. screw gauges  
   c. lumber sizes  
   d. length of common rafter per foot run

212. Which of the following saws would not be able to cut all the way through a 1 x 12?
   a. sliding compound miter saw  
   b. hand saw  
   c. back saw  
   d. coping saw

213. Which of the following squares would be best suited to layout the slope of a roof on a 2 x 4?
   a. try square  
   b. T square  
   c. speed square  
   d. combination square

214. Which of the following types of hammers has a straighter claw?
   a. ball peen hammer  
   b. blacksmith’s hammer  
   c. ripping claw hammer  
   d. curved claw hammer

215. Which of the following types of saws is used with a miter box?
   a. back saw  
   b. hand saw  
   c. coping saw  
   d. hack saw

216. What are the two types of hand saws?
   a. ripping and crosscut  
   b. ripping and straight cut  
   c. crosscut and straight cut  
   d. metal and wood

217. The slit that is made in a piece of wood when cutting all the way through with a saw is called a:
   a. groove  
   b. kerf  
   c. notch  
   d. dado
218. A tool that is used to transfer angles is called a:
   a. combination square  
   b. try square  
   c. T-bevel  
   d. awl

219. Which saw would be used when cutting a hole in sheetrock?
   a. coping saw  
   b. hand saw  
   c. back saw  
   d. keyhole saw

220. Which type tool would be used to drill a hole in a door for a door knob?
   a. wood bit  
   b. spade bit  
   c. hole saw  
   d. countersink bit

221. What is the proper name of the tool that is used to drive a nail below the surface of the wood?
   a. nail driver  
   b. nail set  
   c. nail guide  
   d. nail punch

222. Which of the following is not another name for a paddle bit?
   a. power bit  
   b. spade bit  
   c. butterfly bit  
   d. twist bit

223. The end of the hammer that makes contact with the nail is called the ________.
   a. head  
   b. poll  
   c. cheek  
   d. face

224. The size of a claw hammer is determined by the:
   a. weight of the head  
   b. weight of the entire hammer  
   c. length of the handle  
   d. length of the head

225. Which of the following tools would be used to check structural members to see if they are horizontal or vertical?
   a. framing square  
   b. level  
   c. jointer plane  
   d. plumb bob

226. Which of the following squares has an adjustable sliding blade?
   a. combination square  
   b. speed square  
   c. rafter square  
   d. try square

227. Which word describes something that is exactly vertical?
   a. even  
   b. upright  
   c. plumb  
   d. level

228. Which word describes something that is exactly horizontal?
   a. even  
   b. flat  
   c. plumb  
   d. level

229. Which size nail is the most common for nailing floor joist, studs, rafters and ceiling joist?
   a. 8d  
   b. 10d  
   c. 16d  
   d. 20d

230. ________ carry the weight of the building across door and window openings.
   a. Trimmers  
   b. Headers  
   c. Studs  
   d. Rafters
231. Header length is equal to the rough opening plus the width of _____ trimmers.
   a. 2       c. 4
   b. 3       d. 6

232. To make the thickness of the header match the thickness of the wall, a _____ piece of plywood is inserted
     between the two outside pieces.
   a. 1/4”       c. 3/4”
   b. 1/2”       d. 1”

233. The studs that run the entire height of the wall are called:
   a. full studs       c. trimmer studs
   b. cripple studs    d. complete studs

234. The studs that support the weight of the header and are located at each end of the header are called:
   a. full studs       c. trimmer studs
   b. cripple studs    d. complete studs

235. The studs that are positioned above a header or below a window sill are called:
   a. full studs       c. trimmer studs
   b. cripple studs    d. complete studs

236. Driving a nail at an angle in order to permit it to penetrate into a second framing member is known as:
   a. angle nailing
   b. force driving
   c. toenailing
   d. slant driving

237. To add support under ceiling joists and rafters and to also help tie the wall frames together, the top plate of the
     walls should be _______________.
   a. nailed more
   b. doubled
   c. made of 2 x 6’s
   d. glued

238. OSB stands for:
   a. orientated strand board
   b. off set board
   c. official stud board
   d. over size board

239. When installing sheathing on walls, the nails along the edge of the sheathing should be placed approximately
     _____ apart.
   a. 3”       c. 10”
   b. 6”       d. 12”

240. When installing sheathing on walls, the nails in the middle of the sheathing should be placed approximately
     _____ apart.
   a. 3”       c. 10”
   b. 6”       d. 12”

241. What is the material called that covers the exterior of the walls to prevent air from entering or leaving a
     building through the cracks of the walls?
   a. insulation       c. mortar
   b. sheathing        d. house wrap

242. When studs are placed 16” O.C., what does the O.C. stand for?
   a. on course       c. on center
   b. over center     d. off center
243. The bottom plate of a wall section is known as the:
   a. sole plate  c. bottom board
   b. bottom plate  d. bottom piece

244. The first layout to be marked on the plates is the _______ spacing.
   a. trimmer stud  c. cripple stud
   b. regular/full stud  d. window

245. What type mark is made on the plates of a wall to designate where full or regular studs are to be installed?
   a. F  c. X
   b. R  d. F/R

246. A number related to the efficiency of an insulating material.
   a. 12  c. R value
   b. 16  d. I value

247. Horizontal roof members used to support rafters between the plate and ridge board are called:
   a. purlins  c. chords
   b. supports  d. stringers

248. The horizontal line at the junction of the top edges of two roof surfaces is called the:
   a. plate  c. sill
   b. chord  d. ridge

249. An opening formed by framing members is known as the:
   a. opening space  c. rough opening
   b. door and window opening  d. rough space

250. Boards or prefabricated panels that are attached to the exterior of studs or rafters of a structure is called:
   a. siding  c. exterior panels
   b. sheathing  d. wall board
### MULTIPLE CHOICE

1. ANS: C  
   PTS: 1
2. ANS: A  
   PTS: 1
3. ANS: B  
   PTS: 1
4. ANS: C  
   PTS: 1
5. ANS: D  
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6. ANS: B  
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248. ANS: D  PTS: 1
249. ANS: C  PTS: 1
250. ANS: B  PTS: 1