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1. Print these pages.
2. Print the Cross Connection manual at (large files and could take time to download) http://garyklinka.com/Manuals/crossconnection_24_manual.pdf
3. Simply follow the manual from beginning to end to answer the questions.
4. Go to the bottom of this page for course verification forms and mailing instructions.

Course qualifies for the following Credentials: 6 hours of credit

1. Commercial Plumbing Inspector
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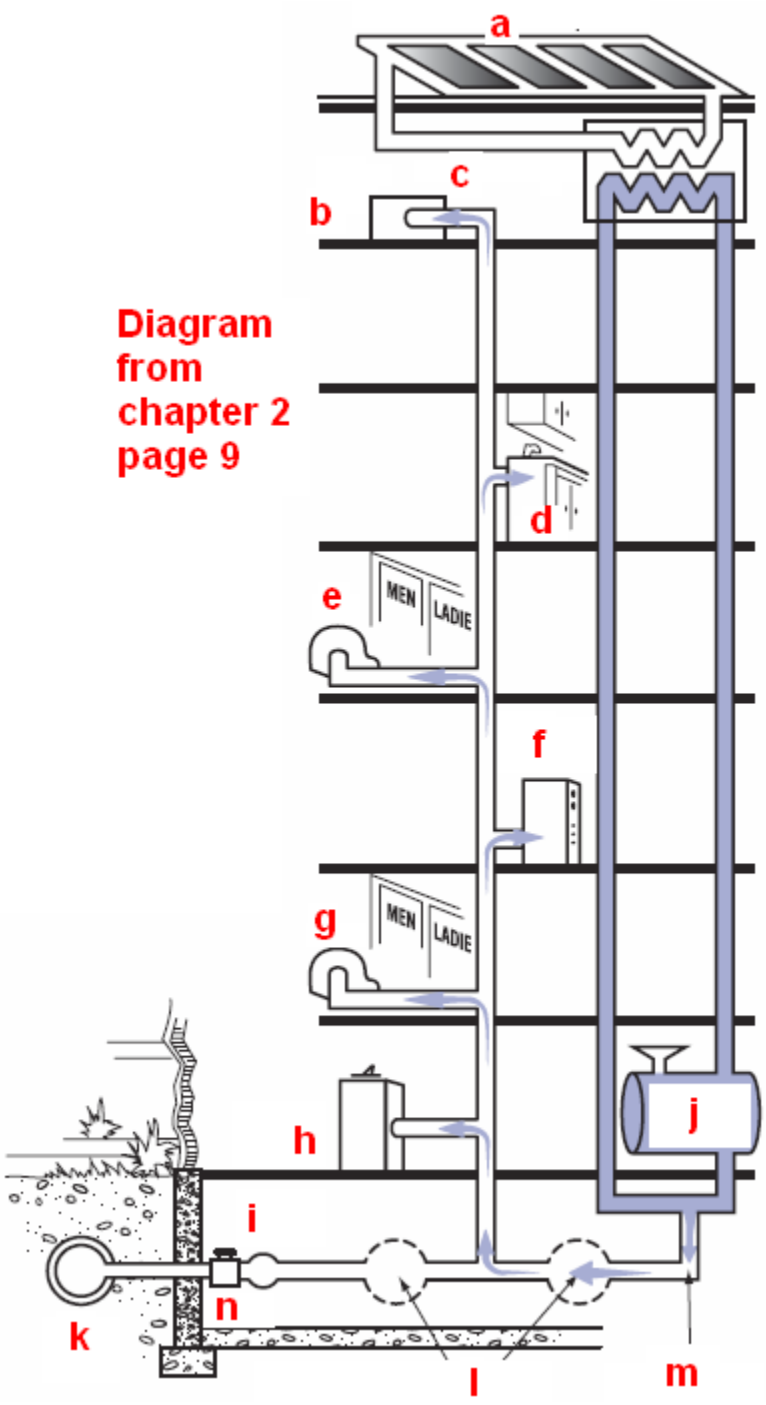


Diagram from chapter 2 page 9

Use the above diagram for questions 78-91

78. The letter ‘a’ represents _____

79. The letter ‘b’ represents _____

80. The letter ‘c’ represents _____

81. The letter ‘d’ represents _____

82. The letter ‘e’ represents _____

83. The letter ‘f’ represents _____

84. The letter ‘g’ represents _____

85. The letter ‘h’ represents _____

86. The letter ‘i’ represents _____

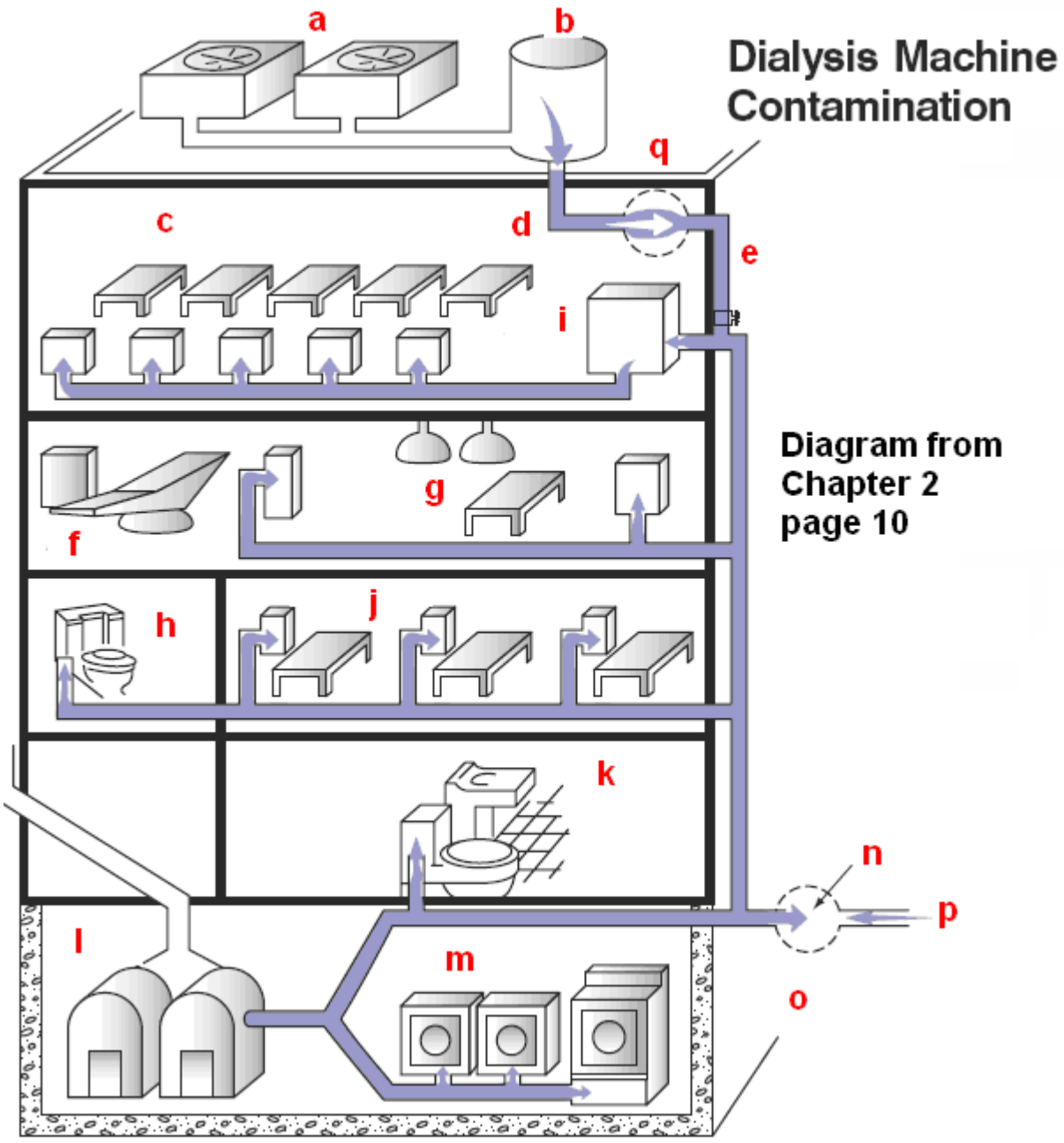
87. The letter ‘j’ represents _____

88. The letter ‘k’ represents _____

89. The letter ‘l’ represents _____

90. The letter ‘m’ represents _____

91. The letter ‘n’ represents _____



Use the above diagram for questions 92-107

92. The letter ‘a’ represents _____

93. The letter ‘b’ represents _____

94. The letter ‘c’ represents _____

95. The letter ‘d’ represents _____

96. The letter ‘e’ represents _____

97. The letter ‘f’ represents _____

98. The letter ‘g’ represents _____

99. The letter ‘h’ represents _____

100. The letter ‘i’ represents _____

101. The letter ‘j’ represents _____

102. The letter ‘k’ represents _____

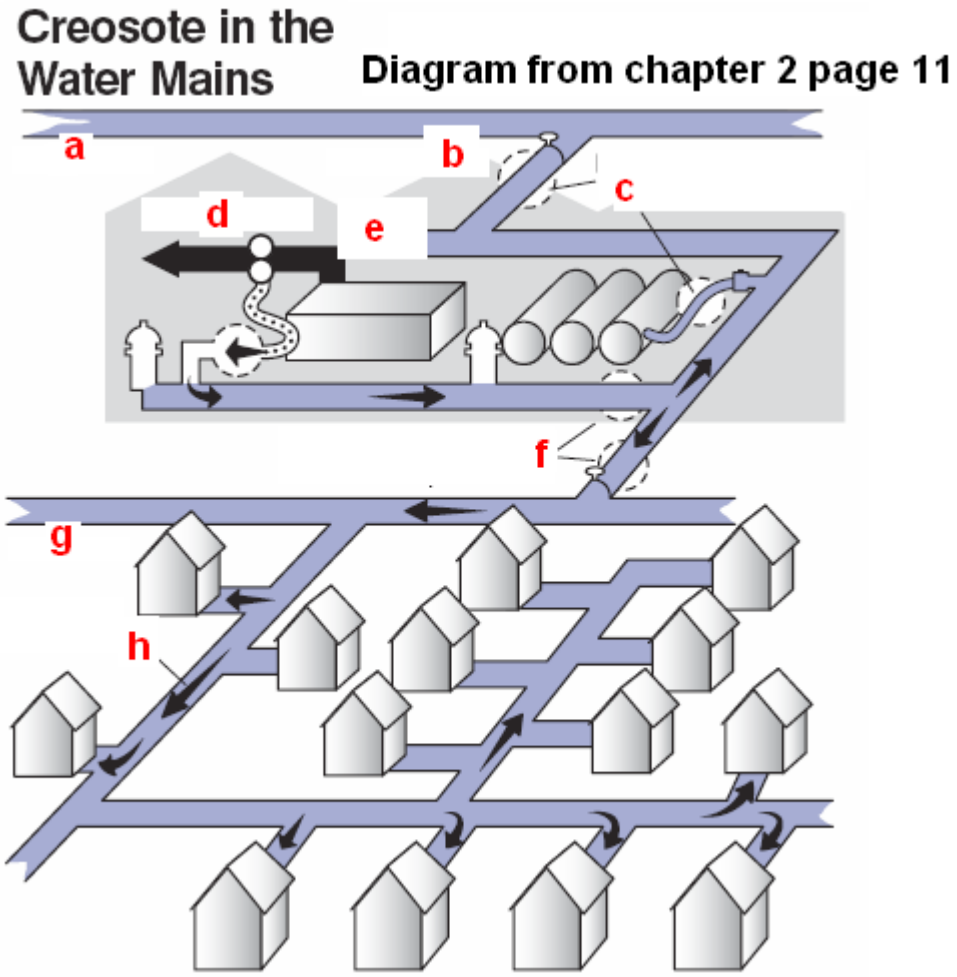
103. The letter ‘l’ represents _____

104. The letter ‘m’ represents _____

105. The letter ‘n’ represents _____

106. The letter ‘o’ represents _____

107. The letter ‘p’ represents _____



Use the above diagram for questions 108-115

108. The letter ‘a’ represents _____

109. The letter ‘b’ represents _____

110. The letter ‘c’ represents _____

111. The letter ‘d’ represents _____

112. The letter ‘e’ represents _____

113. The letter ‘f’ represents _____

114. The letter ‘g’ represents _____

115. The letter ‘h’ represents _____

116. For an understanding of the nature of pressure and its relationship to water depth, consider the pressure exerted on the base of a cubic foot of water at sea level. (See Fig. 1) The average weight of a cubic foot of water is 62.4 pounds per square foot gage.

a. true b. false

117. Frequently water pressure is referred to using the terms “pressure head” or just “head,” and is expressed in units of feet of water. One foot of head would be equivalent to the pressure produced at the base of a column of water 1 foot in depth. One foot of head or 1 foot of water is equal to 0.433 psig. One hundred feet of head is equal to 43.3 psig.

a. true b. false

Methods and Devices for the Prevention of Backflow and Back-Siphonage

List the six basic types of devices that can be used to correct cross-connections:

118. _____

119. _____

120. _____

121. _____ t _____

122. _____

123. _____

124. Air gaps are mechanical backflow preventers that are very effective devices to be used where either backsiphonage or backpressure conditions may exist.

a. true b. false

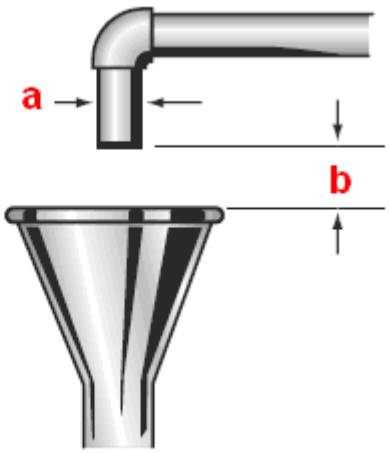


FIGURE 12.
Air gap.

125. The letter ‘a’ represents _____

126. The letter ‘b’ represents _____

127. The barometric loop consists of a non-continuous section of supply piping that abruptly rises to a height of approximately 35 feet and then returns back down to below the originating level.

a. true b. false

128. The barometric loop is a loop in the piping system that effectively protects against backsiphonage and backpressure.

a. true b. false

129. The barometric loops operation, in the protection against backsiphonage, is based upon the principle that a water column, at sea level pressure, will always rise above 33.9 feet.

a. true b. false

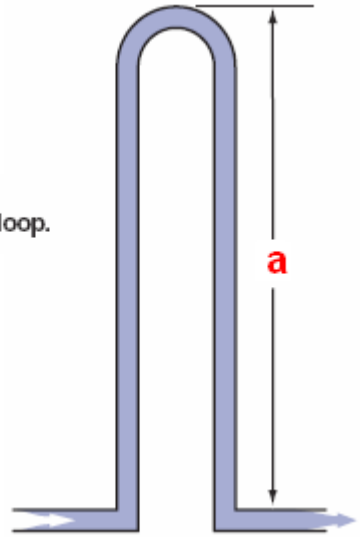


FIGURE 14.
Barometric loop.

130. The letter 'a' represents _____

131. The atmospheric vacuum breaker's construction consists usually of a polyethylene float which is free to travel on a shaft and seal in the uppermost position against atmosphere with an elastomeric disc.

a. true b. false

132. In general the atmospheric vacuum breakers are available in ½-inch through 3-inch size.

a. true b. false

133. The atmospheric vacuum breaker must be installed within 15 degrees of vertically.

a. true b. false

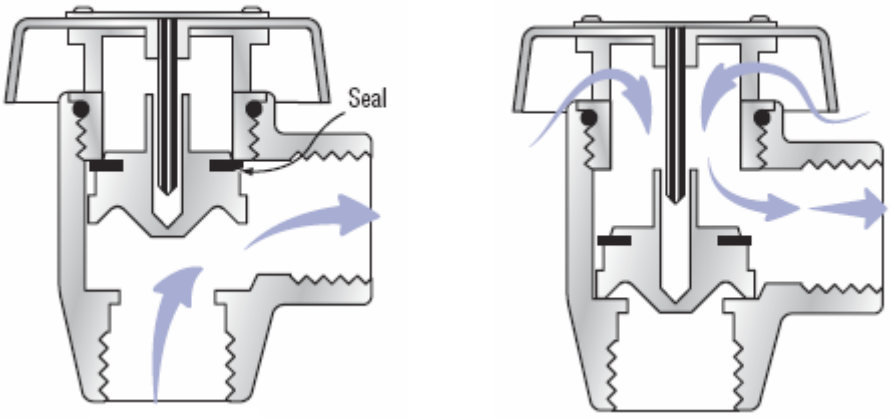
134. The atmospheric vacuum breaker must not have shutoffs downstream, and must be installed at least 6-inches higher than the final outlet.

a. true b. false

135. The atmospheric vacuum breaker cannot be tested once they are installed in the plumbing system, but are, for the most part, dependable, trouble-free devices for backsiphonage protection.

a. true b. false

FIGURE 15.
Atmospheric vacuum breaker.

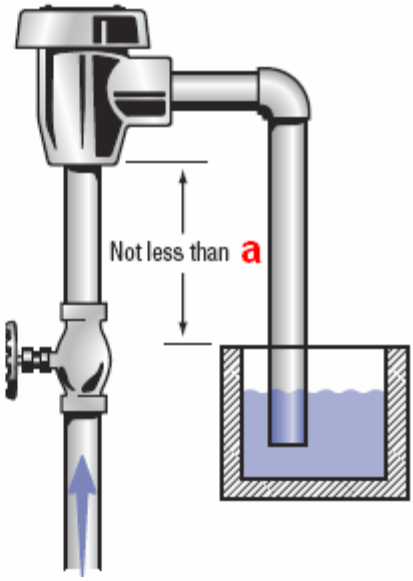


A B

136. Figure 'A' above is in the _____ position.
a. open b. closed

137. Figure 'B' above is in the _____ position.
a. open b. closed

FIGURE 16.
Atmospheric vacuum breaker typical installation.



138. 130. The letter 'a' represents _____ inches.
a. 4 b. 8 c. 6 d. 12

139. Hose bibb vacuum breakers consist of a spring loaded check valve that seals against an atmospheric outlet when water supply pressure is turned on.
a. true b. false

140. Hose bibb vacuum breakers can be used as backpressure devices.
a. true b. false

141. Pressure vacuum breaker units are available in the general configurations as shown in Figure 20 in sizes ½-inch through 10-inch.
a. true b. false

142. Pressure vacuum breaker devices may be used under constant pressure but do not protect against backpressure conditions.
a. true b. false

143. Pressure vacuum breakers installation must be at least 6- to 12-inches higher than the existing outlet.
a. true b. false

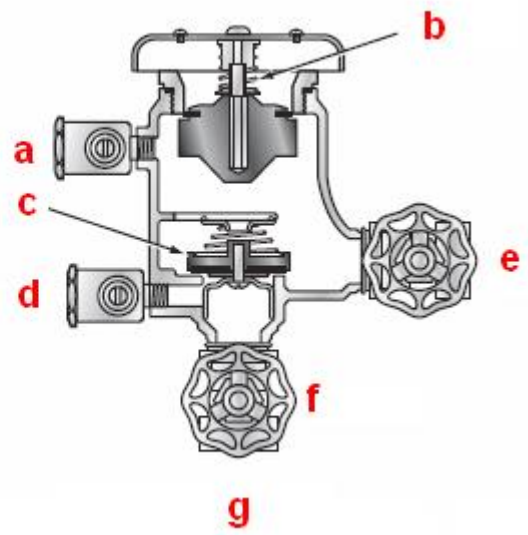


FIGURE 20.
Pressure vacuum breaker

Use the above diagram for questions 144-150

144. The letter 'a' represents _____

145. The letter 'b' represents _____

146. The letter 'c' represents _____

147. The letter 'd' represents _____

148. The letter 'e' represents _____

149. The letter 'f' represents _____

150. The letter 'g' represents _____

151. The double check with intermediate atmospheric vent provides a compact device in ½-inch and ¾-inch pipe sizes that protects against all hazards.
a. true b. false

152. The double check with intermediate atmospheric vent is capable of being used under constant pressure.

a. true b. false

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