

Texas Journeyman Plumbing Practice Test (Sample)

Study Guide



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SAMPLE

Questions

- 1. What is a riser in the context of a gas piping system?**
 - A. A horizontal pipe for gas distribution**
 - B. A device that regulates gas pressure**
 - C. A vertical pipe supplying fuel gas**
 - D. A type of gas meter**
- 2. How far downstream of the base of a drain stack must horizontal branches connect?**
 - A. 5 pipe diameters**
 - B. 10 pipe diameters**
 - C. 15 pipe diameters**
 - D. 20 pipe diameters**
- 3. How long should wastewater be retained in a grease interceptor for effective separation?**
 - A. 15 minutes**
 - B. 30 minutes**
 - C. 45 minutes**
 - D. 1 hour**
- 4. What does the horizontal branch drain do in a plumbing system?**
 - A. Receives discharge from multiple fixtures and directs it to the drainage system**
 - B. Acts as a direct connection to the water supply**
 - C. Stabilizes pressure fluctuations in water lines**
 - D. Holds wastewater until it can be pumped out**
- 5. What does the fuel piping system include from the point of delivery?**
 - A. Only the valves and fittings**
 - B. The fuel piping, valves, and fittings**
 - C. Only the appliance shut off valves**
 - D. The riser and appliance outlet**

- 6. Which appliance type is typically associated with Type B Vents?**
- A. High-efficiency furnaces**
 - B. Water heaters with no draft hood**
 - C. Draft hood appliances**
 - D. Wall furnaces**
- 7. What is backflow in plumbing?**
- A. Pressure from the water supply mains**
 - B. The movement of contaminated water into the potable supply**
 - C. A type of water distribution valve**
 - D. A method for draining systems**
- 8. What is the correct method for backfilling around pipes?**
- A. To fill all at once**
 - B. To replace in 6-inch lifts up to 12 inches**
 - C. To not backfill at all**
 - D. To fill in loose gravel**
- 9. What is the definition of specific gravity?**
- A. The weight of a substance compared to its liquid form**
 - B. The ratio of weight of a volume of gas to the same volume of air**
 - C. The density of a liquid compared to a gas**
 - D. The pressure of gas compared to atmospheric pressure**
- 10. What is the minimum distance through air measured between the heat-producing surface of a mechanical appliance and combustible materials called?**
- A. Clearance**
 - B. Combustion Air**
 - C. Concealed Location**
 - D. Connector, Appliance**

Answers

SAMPLE

1. C
2. B
3. B
4. A
5. B
6. C
7. B
8. B
9. B
10. A

SAMPLE

Explanations

SAMPLE

1. What is a riser in the context of a gas piping system?

- A. A horizontal pipe for gas distribution**
- B. A device that regulates gas pressure**
- C. A vertical pipe supplying fuel gas**
- D. A type of gas meter**

In the context of a gas piping system, a riser serves a critical role as a vertical pipe that supplies fuel gas. This design is essential for transporting gas vertically, typically from a lower level such as a basement or utility area to upper floors or different levels of a building. The riser system allows for efficient delivery of fuel gas to various appliances or fixtures throughout the structure that require it. Understanding the specific function of a riser is key to ensuring that gas is distributed safely and effectively as it navigates different elevations within a building. This is particularly important in multi-story structures where appliances might be located on different floors. Thus, the riser's design not only facilitates functionality but also ensures compliance with safety regulations regarding gas installations. In contrast, the other choices describe different components or functions within a gas piping system that do not pertain to the definition of a riser. Horizontal pipes serve to distribute gas laterally rather than vertically, a device that regulates gas pressure focuses on modulation rather than transportation, and a gas meter is associated with measuring gas flow rather than delivering it vertically within a building.

2. How far downstream of the base of a drain stack must horizontal branches connect?

- A. 5 pipe diameters**
- B. 10 pipe diameters**
- C. 15 pipe diameters**
- D. 20 pipe diameters**

The correct answer indicates that horizontal branches must connect at least 10 pipe diameters downstream of the base of a drain stack. This requirement is an important plumbing code stipulation designed to ensure proper drainage and venting in a plumbing system. The rationale behind this regulation is primarily related to the flow dynamics within the drain system. Connecting a horizontal branch too close to the drain stack can lead to issues with siphoning or turbulence, which could impede the flow of wastewater. By maintaining a distance of 10 pipe diameters, the design helps establish a more stable flow pattern, reducing the risk of trapped air or backflow that could result from an improperly placed horizontal connection. The specified distance ensures that the wastewater has sufficient space to achieve a smooth, uninterrupted flow into the main drain system. Proper adherence to this guideline helps maintain the efficiency of the plumbing system while minimizing potential for clogs or other drainage problems that could arise from poorly positioned branches.

3. How long should wastewater be retained in a grease interceptor for effective separation?

- A. 15 minutes
- B. 30 minutes**
- C. 45 minutes
- D. 1 hour

For effective separation in a grease interceptor, the wastewater should be retained for a minimum of 30 minutes. The process of grease separation relies on the physical properties of fats, oils, and grease (FOG) which tend to float on water due to their lower density. During this retention time, the FOG has the opportunity to rise to the surface, allowing the clearer water to exit from the bottom. If wastewater is retained for a shorter period, such as 15 minutes, it may not provide sufficient time for the FOG to effectively separate and rise, leading to inefficiencies in the interceptor's design and potentially resulting in FOG being discharged into the sewage system. On the other hand, retaining wastewater for an hour may exceed the necessary separation time, which could result in diminishing returns and may lead to operational inefficiencies without additional benefits. Therefore, the optimal retention time for effective separation is set at 30 minutes to balance efficiency and effectiveness in grease removal.

4. What does the horizontal branch drain do in a plumbing system?

- A. Receives discharge from multiple fixtures and directs it to the drainage system**
- B. Acts as a direct connection to the water supply
- C. Stabilizes pressure fluctuations in water lines
- D. Holds wastewater until it can be pumped out

The horizontal branch drain serves a crucial function in a plumbing system by receiving the discharge from multiple fixtures, such as sinks, toilets, and bathtubs, and directing that flow into the larger drainage system. This component is designed to facilitate the gravity flow of wastewater, ensuring that it moves efficiently from various fixtures to the main drain or sewer line. This role is important because it helps to consolidate the wastewater from different sources, reducing the risk of blockages and backflow. In addition, properly installed horizontal branch drains can help maintain adequate drainage rates and prevent issues such as odors and overflows. By understanding the purpose of the horizontal branch drain, plumbers can better design and maintain plumbing systems to ensure they operate effectively and meet building codes. The other options refer to functionalities that are not associated with the horizontal branch drain. For example, a direct connection to the water supply pertains to supply lines, while stabilizing pressure fluctuations is related to plumbing fixtures or systems designed to maintain pressure. Holding wastewater until it can be pumped out refers to systems that utilize holding tanks or septic systems, which is different from the gravity-driven function of a horizontal branch drain.

5. What does the fuel piping system include from the point of delivery?

- A. Only the valves and fittings**
- B. The fuel piping, valves, and fittings**
- C. Only the appliance shut off valves**
- D. The riser and appliance outlet**

The fuel piping system from the point of delivery includes the complete assembly necessary for safe and efficient transport and control of the fuel. This encompasses not just the fuel piping itself, but also all associated valves and fittings that are essential for maintaining system integrity and functionality. In a typical system, the fuel piping will transport gas or fuel from the point of delivery to the appliances, while the valves serve crucial roles such as regulating flow and providing shut-off capabilities for safety and maintenance purposes. Fittings are integral for connecting different sections of piping and ensuring that the system is correctly configured to avoid leaks or pressure drops. Therefore, the inclusion of all three components—fuel piping, valves, and fittings—accurately reflects how a fuel system operates from delivery to utilization. The other options focus on only part of the system, which does not capture the comprehensive nature of what a fuel piping system entails. By understanding the full scope, plumbing professionals can ensure adherence to safety standards and system efficiency.

6. Which appliance type is typically associated with Type B Vents?

- A. High-efficiency furnaces**
- B. Water heaters with no draft hood**
- C. Draft hood appliances**
- D. Wall furnaces**

Type B vents are specifically designed for venting appliances that produce combustion gases that are moderate in temperature and pressure, typically from gas appliances. These vents are used primarily for category I appliances, which are non-positive venting systems that do not require a fan for venting exhaust gases. Draft hood appliances, such as traditional furnaces and water heaters with draft hoods, naturally draw air for combustion and exhaust the gases through the chimney. The draft hood is a critical component as it helps to neutralize the pressure and ensures that combustion gases are adequately vented to the outside without creating backdrafts. In contrast, high-efficiency furnaces utilize condensate drainage systems and often employ PVC or other venting methods, not Type B vents. Water heaters without draft hoods and wall furnaces may have different venting requirements that also do not align with the use of Type B vents, as they may use direct venting systems or other forms of appliance-specific venting. Thus, the choice/reference to draft hood appliances is the most appropriate for Type B vents, which allows a clear understanding of their function and application in venting systems.

7. What is backflow in plumbing?

- A. Pressure from the water supply mains
- B. The movement of contaminated water into the potable supply**
- C. A type of water distribution valve
- D. A method for draining systems

Backflow in plumbing refers specifically to the movement of contaminated water into the potable supply. This phenomenon can occur when there is a change in pressure within a plumbing system that allows water to flow in the opposite direction. It is a critical concern for public health and safety because backflow can introduce harmful pollutants or pathogens into drinking water, leading to serious health risks. The prevention of backflow is a fundamental aspect of plumbing design, often requiring backflow prevention devices to ensure that the potable water supply remains safe and uncontaminated. Understanding this concept is vital for any plumbing professional, as it highlights the importance of maintaining pressure and ensuring the integrity of the water supply system.

8. What is the correct method for backfilling around pipes?

- A. To fill all at once
- B. To replace in 6-inch lifts up to 12 inches**
- C. To not backfill at all
- D. To fill in loose gravel

The correct method for backfilling around pipes involves replacing the material in 6-inch lifts up to 12 inches. This technique is crucial because it ensures that the soil around the pipes is compacted evenly and gradually, reducing the likelihood of settling or shifting once the project is completed. When backfilling in layers or lifts, materials can be compacted more effectively, which provides better support for the pipes and minimizes the risk of damage due to soil movement or water flow. Backfilling all at once can lead to uneven settling and potential pipe displacement, as the weight of the fill material can put excessive pressure on the pipes. Not backfilling at all is impractical and can lead to exposure of the pipes to elements, potential failure, or damage. Using loose gravel as fill can compromise the surrounding support and shifting may occur, which is not ideal in maintaining the integrity of the plumbing system. Therefore, the method of backfilling in controlled lifts is important for ensuring long-term stability and performance of buried pipes.

9. What is the definition of specific gravity?

- A. The weight of a substance compared to its liquid form**
- B. The ratio of weight of a volume of gas to the same volume of air**
- C. The density of a liquid compared to a gas**
- D. The pressure of gas compared to atmospheric pressure**

Specific gravity is defined as the ratio of the weight of a substance to the weight of an equal volume of a reference substance, typically water for liquids and air for gases. For gases, specific gravity measures how heavy a gas is when compared to the same volume of air at the same temperature and pressure. This measurement is crucial in plumbing and other fields to assess the buoyancy and behavior of gases as they relate to air. In the context of gas, knowing specific gravity helps in understanding how a gas will behave in a mixture or in relation to other gases. Gases with a specific gravity less than 1 are lighter than air and will rise, whereas those with a specific gravity greater than 1 are heavier and will tend to sink. This property is essential in designing ventilation systems, gas lines, and understanding gas leaks. The other choices do not accurately describe specific gravity; for example, the definition that refers to the weight of a substance compared to its liquid form is too vague, and the one comparing the density of a liquid to a gas mixes two different states without addressing the specific concept of gravity. The option discussing the pressure of gas compared to atmospheric pressure shifts the focus away from the concept of specific gravity entirely, relating instead to barometric measurements.

10. What is the minimum distance through air measured between the heat-producing surface of a mechanical appliance and combustible materials called?

- A. Clearance**
- B. Combustion Air**
- C. Concealed Location**
- D. Connector, Appliance**

The minimum distance through air measured between the heat-producing surface of a mechanical appliance and combustible materials is referred to as clearance. This term is used to ensure safety in the installation and operation of heating appliances. Adequate clearance is crucial to prevent the risk of fire or heat-related damage to nearby combustible materials, as excessive heat can ignite those materials if they are too close to the heat source. Clearance specifications vary depending on the type of appliance and are typically outlined in manufacturer installation instructions or relevant building codes. Observing proper clearance distances is essential for compliance with safety standards and for the overall safety of the installation. The other choices do not apply to this context. Combustion air refers to the air required for fuel combustion and is unrelated to the spatial requirement around heat-generating appliances. Concealed location relates to areas that are hidden from view and does not describe a measurement of distance. A connector, appliance is a type of fitting used to connect an appliance to a vent or gas line, which again does not pertain to the distance measure.