Texas Tradesman Plumber-Limited License Practice Exam (Sample)

Study Guide

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Questions

1. What type of valve is typically used to prevent backflow in plumbing systems?

A. Check valve

B. Ball valve

C. Gate valve

D. Globe valve

2. What type of valve allows air to enter the plumbing drainage system when negative pressure develops?

A. Backflow preventer

B. Pressure relief valve

C. Air Admittance Valve (AAV)

D. Check valve

3. Which plumbing component is referred to as "the weir"?

A. The inlet of a trap

B. The outlet of a trap

C. The connecting pipe to the vent

D. The bottom of a sink

4. How far from the center of a water closet should it be from a sidewall?

A. 10 inches

B. 12 inches

C. 14 inches

D. 16 inches

5. Type B water heater vents sized at 4 inches must terminate above a horizontal roof no less than what measurement?

A. 1 inch

B. 3 inches

C. 3/4 of an inch

D. 4 inches

6. Which testing method is commonly used to ensure the integrity of a plumbing system before it is put into service?

A. A pressure test or water test

B. A visual inspection

C. A burst test

D. A flow rate test

7. How often should a plumbing system be inspected?

A. Every month

B. Every six months

C. At least once a year

D. Every two years

8. What is the typical pressure range for residential water systems?

A. 20 to 40 PSI

B. 40 to 60 PSI

C. 60 to 80 PSI

D. 80 to 100 PSI

9. What is the minimum requirement for the flooring of a passageway to an attic water heater?

A. Wooden platform

B. Solid continuous flooring

C. Carpeted flooring

D. Gravel flooring

10. Above-ground PEX piping installed horizontally must be supported at intervals not to exceed?

A. 12 inches

B. 16 inches

C. 18 inches

D. 24 inches

Answers

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

Explanations

1. What type of valve is typically used to prevent backflow in plumbing systems?

A. Check valve

B. Ball valve

C. Gate valve

D. Globe valve

A check valve is specifically designed to prevent backflow in plumbing systems. This type of valve allows fluid to flow in only one direction, effectively blocking any reverse flow that could occur due to pressure changes in the system. The mechanism within a check valve, often a swinging or sliding disc, automatically closes when fluid attempts to reverse direction, ensuring that contamination or other issues from backflow do not occur. In contrast, ball valves, gate valves, and globe valves are primarily used for regulating flow rather than preventing backflow. Ball valves provide a quick shut-off and are commonly used for isolation purposes, while gate valves are typically utilized to start or stop the flow and are not designed to prevent backflow. Globe valves, on the other hand, are used for throttling and controlling flow, but they do not inherently offer backflow protection. Thus, the design and function of a check valve are specifically tailored for preventing backflow, making it the correct answer.

2. What type of valve allows air to enter the plumbing drainage system when negative pressure develops?

A. Backflow preventer

B. Pressure relief valve

C. Air Admittance Valve (AAV)

D. Check valve

The Air Admittance Valve (AAV) is specifically designed to allow air to enter the plumbing drainage system when negative pressure occurs. This function is essential in maintaining proper drainage and preventing issues such as siphoning, which can disrupt the flow of wastewater. When negative pressure builds up in the drainage system—often due to water flowing down the pipes—an AAV opens to allow outside air to enter, equalizing the pressure within the system and facilitating smooth wastewater flow. This mechanism is crucial for preventing trap siphonage, where the water in a trap can be pulled out, leading to foul odors and potential drain issues. The design of an AAV ensures that it remains closed during normal operation to prevent sewer gas from escaping into the living space, while still providing the benefit of pressure equalization during negative pressure events. Other types of valves mentioned serve different functions. For instance, a backflow preventer is used to prevent contaminated water from flowing back into the main water supply. A pressure relief valve typically functions to reduce excess pressure in systems such as boilers or water heaters. A check valve allows fluid to flow in one direction only and prevents backflow but does not respond to negative pressures in the system. Understanding these distinctions helps clarify why the AAV

3. Which plumbing component is referred to as "the weir"?

A. The inlet of a trap

B. The outlet of a trap

C. The connecting pipe to the vent

D. The bottom of a sink

The term "weir" specifically relates to a plumbing trap and is defined as the inlet of a trap. This component is crucial for the function of the trap, as it helps maintain a water seal that prevents sewer gases from entering a building. The design of the weir creates a specific flow of water, ensuring that the trap can effectively hold a certain volume of water, which in turn is essential for maintaining the proper functioning of the drainage system. The inlet of a trap, or the weir, is strategically designed to facilitate water flow while preventing backflow, minimizing the chances of clogs, and maintaining the water barrier needed for odor control. By understanding the role of the weir, plumbers can ensure that traps are correctly installed and functioning, which is vital for any plumbing system.

4. How far from the center of a water closet should it be from a sidewall?

A. 10 inches

B. 12 inches

C. 14 inches

D. 16 inches

The correct distance is 12 inches from the center of a water closet to the sidewall, as specified by plumbing codes and regulations. This standard measurement ensures that there is sufficient space around the toilet for comfortable use and maintenance. A distance of 12 inches allows enough room for the installation of grab bars in accessible bathroom designs, if needed, and provides adequate space for cleaning and accessibility. Furthermore, this measurement helps prevent any potential issues with adjacent fixtures, ensuring that they do not interfere with the functionality of the toilet. This standard spacing plays a critical role in both residential and commercial plumbing layouts and is widely accepted in plumbing practices to facilitate comfort and accessibility for users.

5. Type B water heater vents sized at 4 inches must terminate above a horizontal roof no less than what measurement?

A. 1 inch

B. 3 inches

C. 3/4 of an inch

D. 4 inches

For Type B water heater vents that are 4 inches in size, the termination above a horizontal roof needs to follow specific guidelines outlined in the plumbing codes. The requirement for the vent to terminate a minimum distance above the roof is primarily to ensure that any potentially harmful exhaust gases are safely expelled away from the building and do not re-enter the structure through windows or other openings. The correct height above a horizontal surface, which in this case is specified, ensures that there is an adequate clearance to prevent downdrafts that could cause backdrafting of flue gases. By setting a minimum termination height of 3/4 of an inch specifically, the code provides a clear guideline that protects both the integrity of the venting system and the safety of the indoor environment. Understanding these minimum requirements is critical for maintaining health and safety standards when installing venting systems for water heaters. The specification helps ensure that vent systems function effectively while complying with local building codes and safety regulations. This knowledge is fundamental for plumbing professionals and aids in avoiding installation errors that could lead to safety hazards.

6. Which testing method is commonly used to ensure the integrity of a plumbing system before it is put into service?

A. A pressure test or water test

B. A visual inspection

C. A burst test

D. A flow rate test

A pressure test or water test is the standard method used to verify the integrity of a plumbing system before it becomes operational. This testing process involves filling the system with water or applying air pressure to check for leaks or weak points in the piping and fittings. By subjecting the system to higher than normal operating pressures or by maintaining water in the system for an extended period, any leaks can be detected, allowing for repairs to be made prior to putting the system into regular use. In comparison, visual inspections may identify surface issues but are not sufficient for ensuring that the system is leak-free or will hold pressure. A burst test is focused more on determining the strength of materials rather than ensuring system integrity under operational conditions. A flow rate test analyzes how much water can move through a system, but does not directly assess whether there are any leaks or weaknesses in the plumbing components. Thus, a pressure test or water test provides the most comprehensive evaluation of a plumbing system's readiness for service.

7. How often should a plumbing system be inspected?

A. Every month

B. Every six months

C. At least once a year

D. Every two years

Inspecting a plumbing system at least once a year is essential for maintaining the integrity and functionality of the entire system. Regular inspections help to identify potential issues such as leaks, clogs, or corrosion before they escalate into more significant problems that could result in costly repairs or health hazards. Annual inspections allow for the evaluation of various components, including pipes, fixtures, and water heaters, ensuring they are in good working condition. Additionally, this frequency aligns with general maintenance recommendations across the industry, as it provides a balance between sufficient oversight and practical scheduling for homeowners and property managers. While more frequent inspections might seem advantageous in certain situations, they could be excessive for standard residential plumbing systems unless specific problems are identified. Conversely, less frequent inspections, such as every two years, may allow issues to develop unnoticed, potentially leading to structural damage or unsanitary conditions. This makes annual inspections the most prudent approach for regular maintenance and peace of mind.

8. What is the typical pressure range for residential water systems?

A. 20 to 40 PSI

B. 40 to 60 PSI

C. 60 to 80 PSI

D. 80 to 100 PSI

The typical pressure range for residential water systems is 40 to 60 PSI, as this level ensures that household fixtures, appliances, and plumbing systems function efficiently without excessive strain. Pressure below 40 PSI may result in weak water flow, making it difficult to adequately supply appliances and fixtures, while pressure above 60 PSI could lead to increased wear and tear on plumbing components and potential water damage. Maintaining this pressure range is essential for optimal performance and longevity of the residential plumbing system.

9. What is the minimum requirement for the flooring of a passageway to an attic water heater?

A. Wooden platform

B. Solid continuous flooring

C. Carpeted flooring

D. Gravel flooring

The minimum requirement for the flooring of a passageway to an attic water heater is solid continuous flooring. This requirement is crucial because it ensures safety and accessibility for maintenance and service. A solid surface allows for stable footing when accessing the water heater, minimizing the risk of slips or falls that could occur on less stable or uneven surfaces. Continuous flooring helps prevent accidents by providing a reliable walking surface. The flooring must support the weight of a technician and any tools or equipment that may be needed during service. Additionally, having a solid, continuous flooring surface aids in the movement of any necessary parts or repairs, simplifying maintenance tasks and ensuring regulations regarding access to mechanical equipment are met. Other flooring types, such as wooden platforms or gravel, do not provide the same level of safety and stability. Carpet, while soft, would not provide the solid footing necessary when working with heavy equipment like water heaters and could also pose a risk of trapping moisture, leading to potential mold or other issues in an attic environment. Thus, solid continuous flooring stands out as the optimal choice for ensuring both safety and functionality in accessing attic water heaters.

10. Above-ground PEX piping installed horizontally must be supported at intervals not to exceed?

A. 12 inches

B. 16 inches

C. 18 inches

D. 24 inches

For above-ground PEX piping installed horizontally, it is essential to provide adequate support to prevent sagging, stress, and damage to the piping system. The Texas plumbing code and industry standards establish the requirement that horizontal PEX piping must be supported at intervals not to exceed 18 inches. This support spacing is necessary because it helps maintain the integrity of the PEX material and ensures that the piping remains properly aligned and functional. This closer interval is especially important due to the flexibility of PEX, as excessive distance between supports can lead to excessive movement or bending, which could ultimately compromise the joints or connections in the piping system. By adhering to the 18-inch support rule, plumbers ensure that the installation remains reliable and minimizes the risk of leak occurrences or structural failures in the piping system.