Master Plumber Practice Exam (Sample)

Study Guide

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Questions

1. What type of waste system is indicated by the installation of drinking fountains?

A. Steel pipe

B. Indirect wastes

C. Yoke venting

D. Bell traps

2. What does the plumbing color coding of blue indicate?

A. Hot water supply

B. Cold water supply

C. Sewer system

D. Irrigation system

3. What kind of joint is not allowed in cast iron pipe?

A. A welded

B. B bell and spigot

C. C threaded

D. D soldered

4. What type of building drainage system removes wastewater but not stormwater?

A. Storm drainage system

B. Sanitary drainage system

C. Combined drainage system

D. Graywater system

5. What is the maximum horizontal distance of a trap arm measured from?

A. Outlet

B. Weir of the trap

C. Dip

D. Inlet

6. Single-wall metal pipes must be used with care to avoid which of the following problems?

A. Rust

B. Corrosion

C. Cracking

D. Scaling

7. Which type of drainage piping should not be installed under or within 2 feet of any building?

A. ABS

B. Cast iron

C. Asbestos cement

D. Copper

8. What is the required size of the wet-vented section for a kitchen sink that also drains a laundry tub?

A. 1-1/2 inches

B. 3 inches

C. 2-1/2 inches

D. 2 inches

9. What type of fitting is used to change the direction of a pipe?

A. Union fitting

B. Elbow fitting

C. Coupling fitting

D. Adapter fitting

10. What does "DWV" stand for in plumbing terminology?

A. Drainage, Water, and Vent

B. Drainage, Waste, and Vent

C. Drainage, Waste, and Valve

D. Drainage, Water, and Valve

Answers

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

Explanations

1. What type of waste system is indicated by the installation of drinking fountains?

A. Steel pipe

B. Indirect wastes

C. Yoke venting

D. Bell traps

The installation of drinking fountains typically indicates the need for an indirect waste system. Indirect waste systems are designed to prevent potential contamination from waste water that could backflow into clean water supplies. Drinking fountains, being fixtures that provide potable water, require a waste system that minimizes the risk of cross-contamination. When a drinking fountain is installed, it often involves the use of an indirect waste connection, such as a floor sink that does not directly connect the fountain's drain to the sanitary sewer system. Instead, it allows for the drainage of water while ensuring that any waste water does not pose a risk to the integrity of the drinking water source. This is crucial in maintaining health and safety standards in public and commercial buildings. The other options represent different plumbing concepts that do not specifically relate to the installation of drinking fountains. Steel pipes generally refer to a material choice for piping rather than a specific waste disposal method. Yoke venting relates to venting systems designed to allow gases to escape from the plumbing system but do not pertain directly to waste handling for drinking fountains. Bell traps are a type of trap used for collecting sediment but do not specifically address the concerns of cross-contamination with drinking water systems. Thus, the use of indirect wastes reflects the necessary

2. What does the plumbing color coding of blue indicate?

A. Hot water supply

B. Cold water supply

C. Sewer system

D. Irrigation system

The color coding of blue in plumbing systems is specifically used to indicate cold water supply lines. This standardization helps ensure that anyone working with or around plumbing installations can easily identify the type of water being carried through the pipes. Understanding this color coding is crucial for safety and efficiency during installation, maintenance, and repairs, as it prevents confusion between hot and cold water systems. In plumbing installations, color coding serves as a visual aid to quickly convey important information about the function of each pipe, avoiding potential accidents or mistakes. Pipes designated for cold water are uniformly marked blue, making it straightforward for plumbers and technicians to distinguish them from hot water lines, which are typically marked red.

3. What kind of joint is not allowed in cast iron pipe?

A. A welded

B. B bell and spigot

C. C threaded

D. D soldered

In the context of cast iron piping, the most common and acceptable joining methods are bell and spigot, and threaded connections. The bell and spigot method is typically used for gravity flow systems and allows for easy assembly and disassembly, which is advantageous for maintenance. Threaded joints provide a robust and reliable connection that is commonly utilized in various plumbing applications involving cast iron. Welded joints are not suitable for cast iron because welding can change the structural integrity and mechanical properties of the material, potentially leading to weakening or even cracking. On the other hand, soldered joints are inappropriate for cast iron as they are usually used with softer metals, and the process can damage the cast iron. Therefore, the threading method is specifically recognized for its compatibility with cast iron fixtures and fittings, while welded and soldered joints are excluded due to the fundamental characteristics of cast iron and the risks associated with those joining methods.

4. What type of building drainage system removes wastewater but not stormwater?

A. Storm drainage system

B. Sanitary drainage system

C. Combined drainage system

D. Graywater system

A sanitary drainage system is specifically designed to transport wastewater from areas such as sinks, toilets, and other plumbing fixtures to a treatment facility or sewer system. This system is essential for maintaining hygiene and preventing the spread of pathogens, as it handles water that has been contaminated through human use. The distinction between sanitary drainage systems and other types, like storm drainage systems, is significant. While storm drainage systems are meant to manage surface runoff and prevent flooding by directing rainwater or melted snow to appropriate drainage areas, they do not handle wastewater from toilets or sinks. Combined drainage systems, which are a mix of both sanitary and storm systems, can convey both types of water but are not singularly focused on just wastewater removal. Graywater systems deal specifically with the reuse of water from sources like showers and sinks but do not handle black water that comes from toilets. Thus, a sanitary drainage system is the appropriate choice for transporting only wastewater, underscoring its unique role in plumbing and wastewater management.

5. What is the maximum horizontal distance of a trap arm measured from?

A. Outlet

B. Weir of the trap

C. Dip

D. Inlet

The maximum horizontal distance of a trap arm is measured from the weir of the trap. The weir is the highest point of the trap where water sits before it enters the pipe leading away from the trap. This area is crucial because it establishes the water seal that prevents gases from entering the home. Measuring from the weir ensures that the distance accounts for the gravitational flow of wastewater and maintains the trap's ability to function effectively. By focusing on this point, plumbing codes can set standards for the installation of plumbing systems that effectively prevent issues such as siphoning or backflow, which could occur if the trap arm is too long or improperly installed.

6. Single-wall metal pipes must be used with care to avoid which of the following problems?

A. Rust

B. Corrosion

C. Cracking

D. Scaling

Single-wall metal pipes are particularly susceptible to corrosion, which is the gradual deterioration of the pipe material due to chemical reactions with the environment. This is especially true for pipes made from ferrous metals, like steel, which can rust when exposed to moisture and oxygen. Corrosion can lead to weakened structural integrity, leaks, and ultimately, system failures if not addressed. While rusting is a specific type of corrosion that affects iron and its alloys, the broader category of corrosion encompasses a variety of processes that can occur in different types of materials, including non-ferrous metals. Therefore, emphasizing corrosion is important because it encompasses all the potential reactions that could compromise the pipe's integrity and performance. The other options, such as cracking and scaling, do have relevance in certain contexts, but they do not present the same level of ongoing risk associated with single-wall metal pipes as corrosion does. Understanding the implications of corrosion is critical for the proper maintenance and safety of plumbing systems that utilize single-wall metal piping.

7. Which type of drainage piping should not be installed under or within 2 feet of any building?

A. ABS

B. Cast iron

C. Asbestos cement

D. Copper

Asbestos cement piping is the correct answer because it contains asbestos, a material known for its strength and durability but also for its potential health risks when fibers are released into the air. The disturbance or degradation of asbestos-containing materials can lead to the release of these harmful fibers, which increases the risk of airborne exposure. Therefore, regulations and best practices dictate that asbestos cement piping should not be installed under or within a close proximity of buildings to minimize any health risks associated with asbestos exposure, as well as to avoid future complications related to maintenance or renovations. In contrast, the other materials mentioned—ABS, cast iron, and copper—do not pose the same health hazards associated with asbestos. These materials can be safely installed in various locations, including under buildings, provided that they comply with local building codes and regulations. Each of these materials has its own application strengths within plumbing systems, but they do not carry the same restrictions related to health risks as asbestos cement does.

8. What is the required size of the wet-vented section for a kitchen sink that also drains a laundry tub?

A. 1-1/2 inches

B. 3 inches

C. 2-1/2 inches

D. 2 inches

In plumbing design, a wet venting system allows for the drainage of multiple fixtures through a common vent. For a kitchen sink that also drains a laundry tub, building codes typically require specific sizes for the wet-vented section to ensure proper drainage and venting. The minimum size for a wet vent that services a kitchen sink in conjunction with a laundry tub is 2 inches. This size is crucial as it accommodates the potential flow from both fixtures, preventing issues such as back-pressure and ensuring that air can flow freely through the venting system to promote proper drainage. Using the appropriate pipe size helps to prevent clogs and maintains a sufficient volume of air relative to the wastewater being discharged. Since both a kitchen sink and a laundry tub are fixtures that can generate significant waste water flow, the 2-inch size is deemed necessary to prevent draining problems and maintain an effective venting system. Hence, this size is not only compliant with plumbing codes but also supports the functional requirements of a dual fixture drainage system.

9. What type of fitting is used to change the direction of a pipe?

A. Union fitting

B. Elbow fitting

C. Coupling fitting

D. Adapter fitting

The elbow fitting is specifically designed to change the direction of a pipe. It allows for bends in the plumbing system, typically at angles like 90 degrees or 45 degrees, enabling pipes to turn corners. This is crucial in navigating layouts around structures, avoiding obstacles, or aligning fixtures properly. While union fittings connect two pipes with the ability to disconnect easily, coupling fittings are primarily used to join two straight sections of pipe together. Adapter fittings serve to connect pipes of different sizes or materials. Each of these fittings plays a distinct role in plumbing systems, but when it comes to altering the direction of a pipe, the elbow fitting is the essential component.

10. What does "DWV" stand for in plumbing terminology?

A. Drainage, Water, and Vent

B. Drainage, Waste, and Vent

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D. Drainage, Water, and Valve

"DWV" in plumbing terminology stands for Drainage, Waste, and Vent. This abbreviation refers to a system designed for the proper disposal of wastewater and the venting of gases from drains. The drainage aspect refers to the pipes that carry away wastewater from fixtures. The waste component specifically deals with the byproducts of water usage, while the vent system is crucial for allowing air to enter the plumbing system, thus preventing the creation of a vacuum that could impede drainage. This system is vital for maintaining proper flow rates and ensuring that sewer gases do not enter living spaces, contributing to a safe and efficient plumbing infrastructure. Understanding this terminology is crucial for identifying plumbing system components and their functions, which is essential for any plumbing professional.