

Massachusetts Plumbers Journeyman Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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SAMPLE

Questions

- 1. What is the required distance the automatic vent fitting should be installed above the trap it serves?**
 - A. 4 inches**
 - B. 6 inches**
 - C. 8 inches**
 - D. 10 inches**
- 2. What pipe conveys water from the water service pipe to the point of usage within a building or on the premises?**
 - A. Barometric Loop**
 - B. Soil Pipe**
 - C. Water Distribution Pipe**
 - D. Roughing-in**
- 3. When should the plumbing system of a building be subjected to testing and inspection?**
 - A. Every month**
 - B. Every year**
 - C. When defects are suspected**
 - D. Only during renovations**
- 4. What is the requirement for hangers and supports for hubless cast iron soil piping for each change of direction?**
 - A. One hanger for every two feet**
 - B. One hanger for every three feet**
 - C. One hanger for every four feet**
 - D. One hanger for every five feet**
- 5. If there is reason to believe that a plumbing system has become defective, what action should be taken based on regulations?**
 - A. Notify the building owner**
 - B. Continue regular use**
 - C. Subject it to test and inspection**
 - D. Ignore the issue**

- 6. Where should the vacuum relief valve be installed to protect water heaters and storage tanks from siphoning?**
- A. Below the tank**
 - B. Above the heater**
 - C. Within the tank**
 - D. Above the tank**
- 7. If a plumbing inspector finds code violations in any existing plumbing or gas system that may cause a health or safety hazard, what action should the inspector take?**
- A. Issue a warning to the property owner**
 - B. Shut down the plumbing or gas system immediately**
 - C. Notify the property owner or his or her agent**
 - D. Contact the local authorities for further action**
- 8. What is the approved size for the lettering on the "SAFE WATER" tags for potable water lines?**
- A. 1/4 inches**
 - B. 3/8 inches**
 - C. 1/2 inches**
 - D. 7/16 inches**
- 9. Up to what height can PEX tubing be used for hot and cold water distribution in residential dwellings/buildings?**
- A. Two stories**
 - B. Three stories**
 - C. Four stories**
 - D. Five stories**
- 10. What type of valve must be installed in the water supply main on the discharge side of each water meter?**
- A. Ball valve**
 - B. Butterfly valve**
 - C. Gate valve**
 - D. Globe valve**

Answers

SAMPLE

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

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Explanations

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1. What is the required distance the automatic vent fitting should be installed above the trap it serves?

- A. 4 inches**
- B. 6 inches**
- C. 8 inches**
- D. 10 inches**

The required distance for an automatic vent fitting to be installed above the trap it serves is typically 6 inches. This specification is in place to ensure proper venting and drainage in plumbing systems, which helps prevent the formation of siphons that can lead to trap failures. By placing the automatic vent fitting at this distance, it facilitates adequate airflow, reducing the likelihood of negative pressure in the plumbing system that could otherwise pull water out of the trap. Installing the vent fitting too close to the trap may not allow for sufficient air separation and can hinder the vent's ability to function effectively. Similarly, placing it further away could complicate the plumbing design and increase the risk of improper drainage. Hence, 6 inches is the standard measurement that balances effectiveness with efficiency in plumbing installations.

2. What pipe conveys water from the water service pipe to the point of usage within a building or on the premises?

- A. Barometric Loop**
- B. Soil Pipe**
- C. Water Distribution Pipe**
- D. Roughing-in**

The correct choice is indeed the water distribution pipe. This type of pipe is specifically designed to transport water from the main water service pipe to various fixtures and appliances within a building. It ensures that water is distributed efficiently to all the necessary points of usage, such as sinks, toilets, and showers. The water distribution system is essential for the functionality of any plumbing system, as it facilitates the delivery of potable water where it is needed and at the correct pressure. This type of pipe is distinct from others in that it directly contributes to the internal plumbing network and the overall accessibility of water in a building. Understanding the role of water distribution pipes is crucial for any plumbing professional, as they must ensure that these pipes are installed correctly and meet all applicable codes and standards for safety and efficiency.

3. When should the plumbing system of a building be subjected to testing and inspection?

A. Every month

B. Every year

C. When defects are suspected

D. Only during renovations

The plumbing system of a building should be subjected to testing and inspection when defects are suspected because this approach ensures that issues are identified and addressed promptly, preventing potential system failures or health hazards. Regular inspections are crucial for maintaining the integrity and functionality of the plumbing system, especially if there are signs of leaks, water quality concerns, or performance issues. This targeted strategy allows for efficient use of resources by focusing on areas that are likely to have problems, rather than relying on a fixed schedule that may not correspond to the actual condition of the system. Inspections during renovations or at set intervals like every month or year might overlook signs of deterioration that can occur at any time, making the approach of inspecting when defects are suspected the most effective means of ensuring plumbing systems remain safe and operable.

4. What is the requirement for hangers and supports for hubless cast iron soil piping for each change of direction?

A. One hanger for every two feet

B. One hanger for every three feet

C. One hanger for every four feet

D. One hanger for every five feet

The requirement for hangers and supports for hubless cast iron soil piping specifies the need for a hanger for every four feet of pipe for each change of direction. This regulation is in place to ensure that the piping system is adequately supported, which helps to prevent sagging, misalignment, and potential damage. The support system is crucial for maintaining the integrity and function of the plumbing, particularly where the pipe changes direction, as these areas are often subjected to additional stress factors from weight and flow dynamics. By providing one hanger for every four feet, the system aims to mitigate these risks effectively. This specific requirement aligns with plumbing codes designed to uphold safety and reliability standards in plumbing installations. Thus, understanding the importance of proper spacing and support in plumbing can significantly impact the performance and longevity of the system.

5. If there is reason to believe that a plumbing system has become defective, what action should be taken based on regulations?

- A. Notify the building owner**
- B. Continue regular use**
- C. Subject it to test and inspection**
- D. Ignore the issue**

When there is suspicion that a plumbing system has become defective, the regulations emphasize the importance of subjecting the system to testing and inspection. This action is crucial because it allows for an accurate assessment of the plumbing system's condition to determine the extent of the defect and the necessary remedial steps. Testing and inspection can uncover hidden issues such as leaks, obstructions, or code violations that could lead to further complications if not addressed promptly. Taking proactive measures to test and inspect helps ensure the safety, functionality, and compliance of the plumbing system with local codes and regulations. This practice not only protects the building occupants but also mitigates potential damage to property and health risks associated with defective plumbing. Regular assessment is a key component in maintaining the integrity of plumbing systems.

6. Where should the vacuum relief valve be installed to protect water heaters and storage tanks from siphoning?

- A. Below the tank**
- B. Above the heater**
- C. Within the tank**
- D. Above the tank**

The correct placement of the vacuum relief valve above the tank is essential for preventing siphoning, which can lead to potential damage or malfunction. By positioning the vacuum relief valve at this height, it allows the valve to effectively release any vacuum pressure that may form within the system. This ensures that the water heater or storage tank maintains safe operating conditions by preventing negative pressure that could lead to the impairment of the storage tank or other components. When the vacuum relief valve is installed above the tank, it is poised to activate at a height where it can detect the drop in pressure associated with siphoning situations. This strategic placement allows for proper venting of air into the system, thereby eliminating the risk of siphon-induced collapse. In terms of other placements, a valve installed below the tank would not be capable of responding effectively to the pressures that require relief, while a placement within the tank would not be able to adequately vent the vacuum situation that could occur. Similarly, an above-the-heater position—though it may seem plausible—may not be as effective as directly above the tank in ensuring complete protection against siphoning effects. Therefore, positioning the vacuum relief valve above the tank is the best practice for safety and performance.

7. If a plumbing inspector finds code violations in any existing plumbing or gas system that may cause a health or safety hazard, what action should the inspector take?

- A. Issue a warning to the property owner**
- B. Shut down the plumbing or gas system immediately**
- C. Notify the property owner or his or her agent**
- D. Contact the local authorities for further action**

The most appropriate action for a plumbing inspector to take when discovering code violations with potential health or safety hazards is to notify the property owner or their agent. This step is crucial because it ensures that the responsible party is made aware of the specific issues at hand. By informing the property owner, the inspector provides them with the opportunity to address the violations, which is fundamental in maintaining safety and compliance within the plumbing or gas system. Understanding potential hazards posed by a system is vital; hence, effective communication of these findings allows for prompt remediation. Notifying the property owner can also initiate the necessary processes to rectify the issues, potentially preventing any accidents or health risks.

8. What is the approved size for the lettering on the "SAFE WATER" tags for potable water lines?

- A. 1/4 inches**
- B. 3/8 inches**
- C. 1/2 inches**
- D. 7/16 inches**

The approved size for the lettering on "SAFE WATER" tags for potable water lines is 1/2 inches. This specification ensures that the tags are sufficiently legible and easily identified by everyone, including those who may not be familiar with the plumbing system. Proper labeling is crucial for safety and compliance with regulations, as it helps prevent contamination of potable water supply and ensures that anyone working on or around the water lines is aware of their nature. This standard reflects best practices in plumbing safety, highlighting the importance of clear communication regarding the quality of the water in the pipes. The other choices do not meet the standard size required for visibility and clarity, which is why they are not correct for this specific application.

9. Up to what height can PEX tubing be used for hot and cold water distribution in residential dwellings/buildings?

A. Two stories

B. Three stories

C. Four stories

D. Five stories

PEX tubing is commonly used in residential plumbing for hot and cold water distribution due to its flexibility, resistance to scale and chlorine, low thermal conductivity, and ease of installation. In Massachusetts, the code allows PEX tubing to be utilized for hot and cold water systems up to a height of three stories in residential dwellings. This limitation is primarily based on PEX's physical properties and the requirements for maintaining water pressure and temperature consistency throughout the distribution system. When used beyond three stories, there might be concerns regarding the pressure drop that can occur as water travels upward through the piping. Additionally, there are factors related to heating efficiency and potential thermal expansion that come into play, which are why the code distinguishes a maximum height limit. The other options suggest heights that exceed this three-story limit, which is why they do not align with the current plumbing code regulations. Understanding the height restrictions helps ensure compliance with local standards and promotes safe and effective plumbing installations.

10. What type of valve must be installed in the water supply main on the discharge side of each water meter?

A. Ball valve

B. Butterfly valve

C. Gate valve

D. Globe valve

A gate valve is the correct choice for installation in the water supply main on the discharge side of each water meter because it is designed to provide a straight-line flow of fluid with minimal restriction. When fully opened, a gate valve allows for maximum water flow and is excellent for applications where the valve will either be completely open or completely closed. This makes it ideal for managing the water supply after the meter because it ensures efficient flow when the system is operational. Additionally, gate valves are typically used in situations where there is a need to restrict flow but not frequently. In the context of water supply systems, they are preferred due to their durability and ability to handle large volumes of water without significant pressure drops, ensuring the effective delivery of water throughout the system. In contrast, other types of valves, while having their own specific uses, do not provide the same level of efficiency or are not suited for this application. For example, ball valves are also effective but are typically used for quick shut-offs rather than for a steady flow situation like one after a water meter. Butterfly and globe valves have different flow characteristics and can create more resistance to flow, making them less ideal for this particular placement.