

JOURNEYMAN PIPEFITTER PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://journeymanpipefitter.examzify.com>



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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. What is the purpose of a siphon in a boiler system?**
 - A. To cool the steam
 - B. To develop and maintain a water seal
 - C. To increase pressure
 - D. To eliminate air pockets
- 2. Identify a common failure point in piping systems.**
 - A. Pipes themselves due to material fatigue
 - B. Valves due to improper sealing
 - C. Joints and connections due to stress, corrosion, or improper installation
 - D. Supports and hangers due to rust
- 3. What is the minimum size connection required for piping a high-pressure boiler?**
 - A. 1/2 inch
 - B. 3/4 inch
 - C. 1 inch
 - D. 1.5 inches
- 4. What is the role of a trap in a piping system?**
 - A. To increase fluid flow
 - B. To prevent the backflow of gases while allowing liquid drainage
 - C. To regulate fluid temperature
 - D. To hold pipes in place
- 5. What is the significance of an unrestricted drain for a gauge glass?**
 - A. To prevent corrosion
 - B. To allow for complete drainage of the gauge
 - C. To reduce pressure in the system
 - D. To enhance temperature regulation
- 6. During a hydraulic calculation, which factor is NOT typically assessed?**
 - A. Pressure losses
 - B. Pipe wall thickness
 - C. Flow rates
 - D. Fluid characteristics

- 7. Under which condition is a Pipefitter license required?**
- A. Anything over 700,000 BTU
 - B. Any residential projects
 - C. All commercial installations
 - D. Projects with high-pressure steam only
- 8. According to ASME high-pressure boiler code, how many square feet of heating surface requires the installation of two or more safety valves?**
- A. 250 ft.²
 - B. 400 ft.²
 - C. 500 ft.²
 - D. 600 ft.²
- 9. What is a key role of the bourdon tube within a steam pressure gauge?**
- A. To measure flow rate
 - B. To indicate temperature
 - C. To measure pressure
 - D. To control pressure
- 10. Which of the following items is not common practice in a reducing station?**
- A. Pressure gauge
 - B. Thermometer
 - C. Flow meter
 - D. Steam trap

Answers

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

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Explanations

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1. What is the purpose of a siphon in a boiler system?

- A. To cool the steam
- B. To develop and maintain a water seal**
- C. To increase pressure
- D. To eliminate air pockets

The purpose of a siphon in a boiler system is to develop and maintain a water seal. This water seal is crucial because it prevents steam and gases from escaping the boiler system while allowing for the necessary flow of water. The siphon relies on the principle of siphoning to create a barrier, ensuring that the water level remains stable and that there is no direct communication between the steam space and the atmosphere. This is critical for maintaining safe operating conditions within the boiler. In systems where a siphon is employed, the design ensures that any steam produced does not come into direct contact with measuring instruments or components that could be damaged by high temperatures or pressure. By keeping these components sealed off, the siphon significantly contributes to the efficiency and safety of the boiler operation.

2. Identify a common failure point in piping systems.

- A. Pipes themselves due to material fatigue
- B. Valves due to improper sealing
- C. Joints and connections due to stress, corrosion, or improper installation**
- D. Supports and hangers due to rust

A common failure point in piping systems is indeed the joints and connections. These areas are particularly susceptible to issues because they are critical points where two or more sections of pipe meet. Several factors can contribute to failure at these joints and connections, including stress from thermal expansion and contraction, corrosion from the materials or the fluids being conveyed, and poor installation practices which can lead to leaks or structural weaknesses. Over time, the stresses that piping systems undergo, combined with environmental factors like moisture and chemical exposure, can cause joints to weaken. Corrosion can also significantly degrade materials, leading to failures at these points. Proper installation techniques, such as ensuring correct alignment, applying appropriate sealants, and using the right materials for the specific environment, are crucial for maintaining the integrity of these connections. Other choices, while they may also lead to failures, do not represent as common or significant failure points as joints and connections. For example, pipe material fatigue generally occurs over a prolonged period and under specific conditions, and valves can fail due to sealing issues, but these failures often occur less frequently compared to the widespread challenges faced at joints and connections. Similarly, while rust can affect supports and hangers, the stress and improper installation at joints are more prevalent and critical factors in the overall

3. What is the minimum size connection required for piping a high-pressure boiler?

- A. 1/2 inch
- B. 3/4 inch
- C. 1 inch**
- D. 1.5 inches

The minimum size connection required for piping a high-pressure boiler is typically 1 inch. This size is essential because high-pressure systems need to maintain adequate flow rates to ensure efficient operation and to mitigate the risks associated with high-pressure conditions. A 1-inch connection allows for sufficient volume of steam or water to move through the system, reducing the potential for pressure drops and ensuring that the boiler functions within its designed parameters. This connection size also accommodates the necessary safety considerations, as larger diameters help to alleviate turbulence and facilitate easier maintenance and inspection procedures. Smaller connections, such as 1/2 inch or 3/4 inch, might not provide the required flow rate at high pressures, which could lead to issues like overheating or potential system failures. Therefore, adhering to the 1-inch minimum size is critical for safety and performance in high-pressure boiler applications.

4. What is the role of a trap in a piping system?

- A. To increase fluid flow
- B. To prevent the backflow of gases while allowing liquid drainage**
- C. To regulate fluid temperature
- D. To hold pipes in place

A trap in a piping system is specifically designed to prevent the backflow of gases while allowing liquid drainage. This is achieved by creating a seal with liquid that blocks gases from moving back into areas where they could cause problems, such as fumes in rooms or in plumbing systems. By allowing water or other fluids to flow out while simultaneously restricting the backflow of potentially harmful gases, traps serve a critical safety function in both residential and industrial applications. This functionality is essential for maintaining health standards, especially in plumbing systems connected to wastewater or sewer lines. Notably, traps can be found in various applications, including sink drains and boiler systems, and their proper installation is vital for effective system operation. The other options don't align with the primary function of a trap. While increasing fluid flow could be desirable in certain contexts, it is not the central purpose of a trap. Similarly, regulating fluid temperature is not a function of traps; that role is typically associated with other components in a piping system, such as valves or heat exchangers. Holding pipes in place is more related to supports and brackets used in construction, which again diverges from the purpose of traps.

5. What is the significance of an unrestricted drain for a gauge glass?

- A. To prevent corrosion
- B. To allow for complete drainage of the gauge**
- C. To reduce pressure in the system
- D. To enhance temperature regulation

An unrestricted drain for a gauge glass is crucial because it ensures that any liquid within the gauge can be completely removed. This complete drainage helps maintain the accuracy of the gauge by allowing it to reset properly and prevents any residual fluid from causing false readings. If the drain is restricted or blocked, it could lead to the accumulation of liquid that might affect the function and reliability of the gauge. Completing the drainage also helps in reducing the chances of sediment buildup and potential corrosion within the system, but the primary focus is on achieving complete drainage to ensure accurate operation. Therefore, the functionality of the gauge is heavily reliant on a free and unrestricted drainage system.

6. During a hydraulic calculation, which factor is NOT typically assessed?

- A. Pressure losses
- B. Pipe wall thickness**
- C. Flow rates
- D. Fluid characteristics

In hydraulic calculations, the primary focus is typically on assessing pressure losses, flow rates, and fluid characteristics. These elements are crucial for ensuring the system operates efficiently and safely under expected conditions. Pressure losses are evaluated to determine how much energy is lost as fluid moves through pipes, fittings, valves, and other components. This assessment is vital to ensure that the system maintains adequate pressure for proper operation. Flow rates indicate how much fluid is moving through the system, which helps in sizing pipes appropriately to prevent issues such as excessive velocity or insufficient flow to critical components. Fluid characteristics, such as viscosity and density, play a significant role in determining how fluids will behave within the system. These traits influence pressure losses and flow rates, making it essential to understand them in calculations. Pipe wall thickness, while important in other contexts, such as structural integrity and fluid containment, is not typically assessed during hydraulic calculations themselves. Instead, it is a consideration in the design and selection stages to ensure that the pipes can withstand environmental pressures and stresses. Therefore, it does not directly impact the immediate hydraulic calculations being performed.

7. Under which condition is a Pipefitter license required?

- A. Anything over 700,000 BTU**
- B. Any residential projects
- C. All commercial installations
- D. Projects with high-pressure steam only

A Pipefitter license is typically required in the context of handling systems and installations based on specific parameters like BTU ratings, which are indicative of the heat or energy output of boilers, furnaces, or other heating systems. When it comes to a requirement of handling anything over 700,000 BTU, this threshold usually signifies a more complex and potentially hazardous operation due to the scale and pressure involved. Higher BTU outputs often relate to larger systems that require a deeper understanding of safety protocols, codes, and regulations specific to high-capacity gas or steam systems. While other scenarios such as residential projects, commercial installations, and high-pressure steam projects are also regulated, they do not necessarily encompass the same level of complexity or safety concern that a high BTU limit does. The requirement for a license in the case of high BTU systems is primarily focused on ensuring that only qualified professionals are managing installations that pose higher risks to safety and compliance with industry standards.

8. According to ASME high-pressure boiler code, how many square feet of heating surface requires the installation of two or more safety valves?

- A. 250 ft.²
- B. 400 ft.²
- C. 500 ft.²**
- D. 600 ft.²

The requirement for the installation of two or more safety valves according to the ASME high-pressure boiler code is triggered when the boiler has a certain amount of heating surface area. When the heating surface exceeds 500 square feet, it is necessary to have multiple safety valves. This is to ensure adequate safety measures are in place for pressure relief in larger installations, where single safety valves may not provide sufficient pressure regulation or redundancy. In high-pressure systems, having more than one safety valve improves overall safety, as it reduces the risk of valve failure during operation. Ensuring that there is a reliable means to vent excess pressure is critical in maintaining safe boiler operation, especially as the heating surface area increases. This requirement reflects the general engineering principle of providing additional safety features in systems that operate under higher pressures and capacities.

9. What is a key role of the bourdon tube within a steam pressure gauge?

- A. To measure flow rate
- B. To indicate temperature
- C. To measure pressure**
- D. To control pressure

The bourdon tube is a crucial element in steam pressure gauges, specifically designed to measure pressure. It operates based on the principle that when the internal pressure of a gas or liquid acts on the curved bourdon tube, it causes the tube to straighten or change shape. This mechanical movement is then translated into a reading on the gauge, allowing for a precise indication of the pressure within the system. The performance of the bourdon tube makes it highly suitable for various pressure measurement applications, including steam systems. Its ability to provide accurate readings at different pressure levels is essential for maintaining safe and efficient operations in piping systems. The other options do not relate to the function of the bourdon tube in steam pressure gauges: measuring flow rate is a different mechanism involving flow meters, indicating temperature involves thermometric devices, and controlling pressure requires additional components such as pressure regulators or relief valves. Thus, the primary purpose of the bourdon tube is indeed to measure pressure.

10. Which of the following items is not common practice in a reducing station?

- A. Pressure gauge
- B. Thermometer**
- C. Flow meter
- D. Steam trap

In a reducing station, the primary function is to lower the pressure of steam or gases from a higher pressure to a lower pressure, while also ensuring safety and efficiency in the distribution system. While pressure gauges, flow meters, and steam traps are common components of this system, thermometers are not typically featured in a reducing station. Pressure gauges are essential for monitoring the pressure before and after the reduction occurs. Flow meters help in understanding the quantity of fluid passing through the system, ensuring that the processes rely on appropriate flow rates. Steam traps play a critical role in the system by removing condensate and preventing the accumulation of water, which could lead to inefficiencies or even damage to equipment. Thermometers, while useful in many situations involving temperature monitoring, are not commonly necessary for the primary functions of a reducing station, which focuses on pressure management rather than temperature monitoring. Thus, they are generally not included as standard components in these systems.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

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We wish you the very best on your exam journey. You've got this!

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