

MINNESOTA JOURNEYMAN SPRINKLER FITTER PRACTICE EXAM (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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 maximum percentage of rated capacity that a centrifugal fire pump should handle as a single demand for fire protection?**
 - A. 100%
 - B. 150%
 - C. 200%
 - D. 250%
- 2. How frequently must antifreeze systems be tested to ensure freeze point protection?**
 - A. every 3 years
 - B. annually
 - C. quarterly
 - D. semi-annually
- 3. What percentage of portable fire extinguishers can be removed if 1 ½ inch hose lines are capable of reaching all parts of the building?**
 - A. 25%
 - B. 50%
 - C. 75%
 - D. 100%
- 4. According to the Minnesota State Fire Code, how often should dry systems be checked for air leakage?**
 - A. Annually
 - B. Bi-annually
 - C. Quarterly
 - D. Every 5 years
- 5. When looking at a fire pump motor, if the suction side is on the left, what type of pump is it?**
 - A. Right-Handed Pump
 - B. Left-Handed Pump
 - C. Center Pump
 - D. Vertical Pump

- 6. What type of sprinklers are required in a skylight?**
- A. Intermediate
 - B. Standard
 - C. High
 - D. Extra high
- 7. Which organization sets the standards for fire sprinkler systems?**
- A. ANSI
 - B. NFPA
 - C. OSHA
 - D. EPA
- 8. Who is credited with inventing pipe calculations?**
- A. Hazen Williams
 - B. John Smith
 - C. Bradley Evans
 - D. Tommy Nelson
- 9. Dry systems are designed to not exceed what temperature for circulating water?**
- A. 100°F
 - B. 120°F
 - C. 160°F
 - D. 180°F
- 10. What size common drain pipe must be installed in a stairwell if the system drains are 1 1/2"?**
- A. 1 1/2"
 - B. 2 1/2"
 - C. 3"
 - D. 2"

Answers

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

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Explanations

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1. What is the maximum percentage of rated capacity that a centrifugal fire pump should handle as a single demand for fire protection?

- A. 100%
- B. 150%**
- C. 200%
- D. 250%

In fire protection systems, centrifugal fire pumps are designed to meet the water flow needs of firefighting applications, which often require handling fluctuating demands. The maximum percentage of rated capacity that a centrifugal fire pump should handle as a single demand for fire protection is typically set at 150%. This standard allows for an adequate safety margin to accommodate peak demands during emergency situations while ensuring the pump operates efficiently and reliably. Handling demands at 150% ensures that the pump can deliver the necessary water flow even when multiple outlets are activated simultaneously, which is crucial for effective firefighting efforts. Operating at this level also helps prevent undue stress on the pump, maintaining its longevity and reliability under high-demand conditions. Pumps operating at higher percentages, such as 200% or 250%, would likely risk damaging the pump and compromising the fire protection system, as these conditions exceed safe operational parameters and could lead to operational failures during critical moments.

2. How frequently must antifreeze systems be tested to ensure freeze point protection?

- A. every 3 years
- B. annually**
- C. quarterly
- D. semi-annually

Antifreeze systems in fire protection should be tested annually to ensure they provide adequate freeze point protection. This frequency of testing is critical because it helps ensure that the antifreeze solution maintains its effectiveness in preventing freezing, which is essential in areas where temperatures can drop significantly. Regular annual testing allows for the verification of the antifreeze mixture's concentration and performance, ensuring that the system will function properly in an emergency. The annual requirement aligns with industry standards and guidelines to ensure the safety and reliability of the fire protection systems in various environments. By conducting these tests annually, potential issues can be detected early, and appropriate measures can be taken to maintain the system's integrity and effectiveness in case of a fire.

3. What percentage of portable fire extinguishers can be removed if 1½ inch hose lines are capable of reaching all parts of the building?

- A. 25%
- B. 50%**
- C. 75%
- D. 100%

The correct answer regarding the percentage of portable fire extinguishers that can be removed when 1½ inch hose lines are capable of reaching all parts of the building is 50%. This is based on guidelines that allow for a reduction in the number of fire extinguishers in an area that is adequately covered by fixed firefighting systems, such as hose lines. When the building is equipped with 1½ inch hose lines that can access all areas, it is determined that those areas will have a more effective means of fire control compared to portable extinguishers, hence allowing for a reduction in the number of portable units required. The rationale behind this guideline is centered on improving firefighting efficiency and ensuring adequate fire protection while optimizing resource allocation. A decrease of up to 50% reflects a reasonable compromise between accessibility and reliance on fixed hose lines, which can provide a more substantial and sustained firefighting effort than portable units alone.

4. According to the Minnesota State Fire Code, how often should dry systems be checked for air leakage?

- A. Annually**
- B. Bi-annually
- C. Quarterly
- D. Every 5 years

The Minnesota State Fire Code specifies that dry sprinkler systems should be checked for air leakage on an annual basis. This requirement is in place to ensure the systems remain effective and reliable in the event of a fire. Air leakage can reduce the pressure in the system, potentially compromising its ability to operate properly. A yearly inspection allows for timely detection and correction of any leaks, ensuring that the dry system can maintain the necessary pressure and function correctly when needed. Keeping to this annual schedule helps ensure safety and compliance with fire regulations.

5. When looking at a fire pump motor, if the suction side is on the left, what type of pump is it?

- A. Right-Handed Pump
- B. Left-Handed Pump**
- C. Center Pump
- D. Vertical Pump

A fire pump motor's designation as right-handed or left-handed is determined by the orientation of the suction and discharge sides when looking at the pump from the drive end. If the suction side is on the left, it indicates that the pump is configured to draw water in from the left and discharge it in a way that is consistent with a left-handed design. In this configuration, the pump's impeller rotates in a direction that causes the fluid to flow in from the left side and exit on the right, which is characteristic of a left-handed pump. This designation is crucial for understanding flow direction and performance characteristics in fire protection systems, ensuring correct installation and operation. Understanding the specific type of pump based on orientation is essential for both the installation process and troubleshooting in fire protection systems, where proper water flow and pressure are critical for effective fire suppression.

6. What type of sprinklers are required in a skylight?

A. Intermediate

B. Standard

C. High

D. Extra high

In the context of skylights, intermediate sprinklers are specifically designed to address the unique fire protection challenges associated with these architectural features. Skylights often involve open areas that can allow heat and smoke to accumulate, creating an increased fire risk. Intermediate sprinklers are installed to ensure adequate coverage in these spaces, as they are effective at discharging water over a wider area and can provide the necessary cooling and extinguishing capabilities for fires that may occur beneath or adjacent to a skylight. Understanding the sprinkler requirements around skylights is crucial for maintaining safety regulations and ensuring effective fire suppression in buildings with such structures. The installation of intermediate sprinklers is guided by codes and standards to ensure they meet the specific performance and output needed for these areas.

7. Which organization sets the standards for fire sprinkler systems?

A. ANSI

B. NFPA

C. OSHA

D. EPA

The organization that sets the standards for fire sprinkler systems is the National Fire Protection Association, or NFPA. The NFPA develops codes and standards to help reduce the risk of fire and other hazards. Among its numerous documents, NFPA 13 specifically addresses the design and installation of sprinkler systems, providing guidelines on how to effectively protect buildings and occupants from fire. By setting these standards, the NFPA ensures that fire sprinkler systems are reliable, efficient, and designed according to the latest safety practices. This is essential for safeguarding lives and property, as well as ensuring consistency in fire safety across different jurisdictions and industries. In contrast, American National Standards Institute (ANSI) oversees the development of voluntary consensus standards for various sectors but does not specifically focus on fire sprinkler systems. The Occupational Safety and Health Administration (OSHA) is primarily concerned with workplace safety regulations, while the Environmental Protection Agency (EPA) focuses on environmental protection and does not set standards for fire safety equipment. Thus, NFPA is recognized as the authoritative source for fire sprinkler system standards.

8. Who is credited with inventing pipe calculations?

A. Hazen Williams

B. John Smith

C. Bradley Evans

D. Tommy Nelson

The correct answer is attributed to Hazen Williams because he developed the formula that bears his name, which is crucial for calculating pressure loss in water pipes. This formula takes into account factors like the pipe diameter, length, and the type of fluid being transported, making it a vital tool in hydraulic engineering and design for sprinkler systems and other plumbing applications. Hazen Williams's contributions have significantly influenced how engineers and designers approach fluid dynamics in various systems, ensuring efficiency and safety in water distribution processes. His work is widely used and accepted, providing a foundation for modern pipe calculation methodologies. Understanding this formula and its application is essential for anyone involved in the design or maintenance of water supply systems, as it helps in selecting appropriate pipe sizes and materials to ensure optimal flow rates and pressures throughout a system.

9. Dry systems are designed to not exceed what temperature for circulating water?

- A. 100°F
- B. 120°F**
- C. 160°F
- D. 180°F

Dry systems are specifically designed to be used in environments where the risk of freezing is a concern, such as unheated buildings or outdoor installations. In these systems, the pipes are not filled with water; instead, they contain air or nitrogen under pressure. If the ambient temperature drops, the air or nitrogen remains in the pipes to prevent water from freezing. The correct maximum temperature for circulating water in dry systems is 120°F. This is crucial because if the temperature rises above this threshold, there is a risk that water could be accidentally introduced into the system or that condensation could form, leading to potential freezing in the pipes during cold weather. Keeping the temperature threshold at 120°F also helps maintain the integrity and reliability of materials used in dry systems, preventing premature wear or failure. Any temperatures above this limit can compromise the performance of the system and increase the risks associated with freezing temperatures. In summary, 120°F is the upper limit for circulating water in dry systems to ensure safety and operational efficiency in colder environments.

10. What size common drain pipe must be installed in a stairwell if the system drains are 1 1/2"?

- A. 1 1/2"
- B. 2 1/2"
- C. 3"
- D. 2"**

When determining the appropriate size for a common drain pipe in a stairwell system where the system drains are 1 1/2", it is essential to consider both the function of the drain and industry standards. A common drain pipe serves as the main conduit for the flow of wastewater from multiple smaller drains. Installing a drain pipe that is larger than the individual system drains ensures that it can accommodate the cumulative flow from those drains, preventing potential blockages and allowing for efficient drainage. In this case, a 2" common drain pipe is correctly chosen to provide adequate capacity and minimize the risk of clogs caused by backflow or insufficient drainage. Considering the demands of drainage systems, using 2" ensures that it adheres to plumbing codes and provides a margin for any increased flow that may occur during peak usage times. Larger drain pipes also facilitate easier maintenance, as they can handle debris and sediment better than pipes that are just the same size as the inlets.

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:

<https://mnsprinklerfitter.examzify.com>

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

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