

ILLINOIS STATE PLUMBING PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. Tanks flushing more than one urinal require what type of operation?
 - A. Manual
 - B. Automatic
 - C. Semi-automatic
 - D. Hydraulic
2. A 90-degree bend represents which fraction of a circle?
 - A. $1/2$
 - B. $1/16$
 - C. $1/8$
 - D. $1/4$
3. What is the minimum height above the roof that a vent pipe must extend?
 - A. 12 inches
 - B. 24 inches
 - C. 6 inches
 - D. 18 inches
4. Which of the following is NOT an acceptable bidet water configuration?
 - A. Hot and Cold
 - B. Tempered and Cold
 - C. Tempered Only
 - D. Hot and Cold, Tempered and Cold
5. What is the drainage fixture units for a water closet?
 - A. 4 DFU
 - B. 1 DFU
 - C. 2 DFU
 - D. 3 DFU
6. Floor Drain minimum trap size is specified as?
 - A. 1-1/2 inches
 - B. 2 inches
 - C. 2-1/2 inches
 - D. 3 inches

- 7. Which vent rises as near as possible to or above the highest water level in the fixture vented before connecting to the stack or main vent?**
- A. Wet Vent
 - B. Roof Vent
 - C. Island Fixture Vent
 - D. Individual Vent
- 8. Which term designates the section of the fixture drain that runs from the trap to the vent?**
- A. Carrier Fitting
 - B. Trap Arm
 - C. Waste Arm
 - D. Vent Stack
- 9. What fitting is acceptable for connecting two horizontal drain lines?**
- A. Sanitary Tee and 1/4 Bend
 - B. Sanitary Tee and 1/8 Bend
 - C. Combination Wye and 1/8 Bend
 - D. Combination Wye and 1/4 Bend
- 10. What type of joint can be disassembled and reassembled without removing any adjacent piping?**
- A. Union
 - B. Solder Joint
 - C. Flange
 - D. Compression

Answers

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

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Explanations

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1. Tanks flushing more than one urinal require what type of operation?

- A. Manual
- B. Automatic**
- C. Semi-automatic
- D. Hydraulic

Coordinated control is the key idea here. When a tank feeds more than one urinal, automatic operation is used so the flushes can be triggered without someone having to manually operate each valve. An automatic system—often sensor-activated or centrally controlled—ensures all connected urinals flush in a predictable, timely way, improves hygiene, and helps manage water use efficiently. Manual operation would require a person to press or activate each urinal's flush, which is impractical for multiple fixtures and loses consistency in a busy restroom. Semi-automatic would still involve some user action, defeating the goal of hands-free coordination. Hydraulic refers to a fluid-power concept and isn't the standard method used to control multiple flushes in this context. Automatic operation is the appropriate choice for multi-urinal tank configurations.

2. A 90-degree bend represents which fraction of a circle?

- A. $1/2$
- B. $1/16$
- C. $1/8$
- D. $1/4$**

A 90-degree bend is a quarter turn around a circle. A full circle is 360 degrees, so 90 degrees is $90/360 = 1/4$ of the circle. That's why the correct fraction is $1/4$. To put it in context, a 180-degree bend would be half a circle ($1/2$), 45-degree would be $1/8$ of the circle, and 22.5-degree would be $1/16$ of the circle.

3. What is the minimum height above the roof that a vent pipe must extend?

- A. 12 inches**
- B. 24 inches
- C. 6 inches
- D. 18 inches

Vent terminals must rise above the roof surface enough to stay clear of weather, snow, and debris so sewer gases can vent freely. The minimum height specified is 12 inches. This ensures the vent remains exposed above potential snow cover and rain runoff, reducing the chance of blockage or water intrusion into the vent opening. Heights like 6 inches can be overwhelmed by snow or wind-driven rain in many climates, while 18 or 24 inches go beyond the minimum without providing additional practical benefit for typical residential installations.

4. Which of the following is NOT an acceptable bidet water configuration?

- A. Hot and Cold
- B. Tempered and Cold
- C. Tempered Only
- D. Hot and Cold, Tempered and Cold**

Understanding how a bidet receives water helps you see why mixing multiple supply configurations on one fixture isn't allowed. A bidet should have a single, safe water setup: either hot and cold are provided so you can mix to a comfortable temperature, or a tempered water supply (usually via a tempering valve) is used, possibly with a cold line. The important point is that you don't feed the fixture with more than one independent water configuration at the same time. The option that combines both hot and cold with tempered and cold would require two separate, active supply configurations to the same fixture, which creates backflow risk and confusion in operation. That's why it's not acceptable. The other configurations—hot and cold, tempered and cold, or tempered only—are valid because they represent a single, coherent way to supply the bidet's water with safe temperature control.

5. What is the drainage fixture units for a water closet?

- A. 4 DFU**
- B. 1 DFU
- C. 2 DFU
- D. 3 DFU

Drainage Fixture Units measure the expected wastewater load a fixture places on the drainage system, guiding how large the piping must be. For a water closet, the code table used in this context assigns 4 DFU, reflecting the relatively high discharge involved with a toilet flush, especially for flushometer-valve style toilets common in commercial settings. This higher value ensures the waste line is sized to handle peak flow without siphon or backing up. While some tables may list smaller DFU values for other toilet types (like gravity-feed models), the standard for this material is 4 DFU for a water closet. When sizing a project, you would add 4 DFU for each water closet and combine with DFUs from other fixtures to determine total demand on a branch or stack, then apply any applicable demand factors.

6. Floor Drain minimum trap size is specified as?

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

The most basic reason is that floor drains need enough internal cross-sectional area to handle variable and sometimes heavy discharge without losing the trap seal. A floor drain can release a lot of water at once, so the trap must be large enough to carry that flow and resist being siphoned or blocked. For standard floor drains, codes establish two inches as the minimum trap size. Smaller traps would be more prone to clogging and trap-seal loss, while larger sizes like two-and-a-half or three inches are reserved for special, heavier-duty installations. So, the minimum trap size specified for a floor drain is two inches.

7. Which vent rises as near as possible to or above the highest water level in the fixture vented before connecting to the stack or main vent?

- A. Wet Vent
- B. Roof Vent
- C. Island Fixture Vent**
- D. Individual Vent

When venting a fixture that sits on an island, the vent must rise through the island and extend to a level at or above the highest water level (flood level rim) of the fixtures it serves before it connects to the stack or main vent. This ensures the vent remains above the water surface as drainage occurs, providing a clear air path and preventing siphon that could pull water from traps. An island fixture lacks a nearby wall vent, so the dedicated island vent must be designed to rise high enough to serve the fixtures before joining the building's main vent system.

8. Which term designates the section of the fixture drain that runs from the trap to the vent?

- A. Carrier Fitting
- B. Trap Arm**
- C. Waste Arm
- D. Vent Stack

In drainage work, the pipe segment that leaves the trap and runs horizontally toward the vent is called the trap arm. It connects the trap outlet to the vented portion of the drainage system, and its proper function relies on being level enough to drain, yet sloped (typically about 1/4 inch per foot) so waste moves smoothly toward the vent. The vent stack is the vertical pipe that rises to allow air into the system, preventing siphonage of the trap. A waste arm is a term sometimes used for the drain portion after the trap that carries waste toward the building drain, but it's not the segment from the trap to the vent. A carrier fitting refers to a specific type of fitting, not the length of drain between trap and vent.

9. What fitting is acceptable for connecting two horizontal drain lines?

- A. Sanitary Tee and 1/4 Bend
- B. Sanitary Tee and 1/8 Bend
- C. Combination Wye and 1/8 Bend**
- D. Combination Wye and 1/4 Bend

Connecting two horizontal drain lines needs a fitting that preserves a smooth flow path and avoids sharp turns that can trap solids or cause turbulence. A sanitary tee is not suitable for a horizontal drainage connection because its shape creates an abrupt change in direction that can snag waste and impede flow; it's really meant for certain vertical-to-horizontal transitions, not for tying two horizontals together. A combination fitting that joins with a wye and a small bend provides the right approach. The wye allows a branch to enter the main line at a gentle 45-degree angle, which keeps the flow moving with minimal disruption. Pairing it with a small bend (about 45 degrees) finishes the connection without creating a sharp, flow-stopping corner. This combo minimizes resistance and the potential for clogs, making it the preferred method for joining two horizontal drains. A larger bend would introduce more turbulence and resistance, while a sanitary tee would be inappropriate for this horizontal connection.

10. What type of joint can be disassembled and reassembled without removing any adjacent piping?

- A. Union**
- B. Solder Joint**
- C. Flange**
- D. Compression**

A union is designed for easy disassembly and reassembly without moving the adjacent piping. Its nut-and-end design lets you back off the nut and separate the two pipe ends, leaving the rest of the run untouched. This makes maintenance or replacement quick and clean, since you're not cutting or heating the pipe or disturbing surrounding joints. Solder joints are meant to be permanent; you'd have to heat and rework the joint, which can disturb nearby piping. A flange can be taken apart by unbolting, but it still involves undoing the joint itself and is not as inherently serviceable as a union. Compression fittings can be separated by loosening, but unions are specifically built for straightforward disconnection without removing other piping.

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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:

<https://ilstateplumbing.examzify.com>

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

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