

Trades Qualification (TQ) Practice 3rd Year Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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

- 1. What is the actual size of a 2x4 for framing lumber?**
 - A. 2.0 inches by 4.0 inches.**
 - B. 1.75 inches by 3.75 inches.**
 - C. 1.75 inches by 3.5 inches.**
 - D. 1.5 inches by 3.5 inches.**
- 2. Which symbol represents a resistor?**
 - A. Rectangle**
 - B. Box with diagonal line inside**
 - C. Arrow**
 - D. Long squiggly line**
- 3. In a multi-purpose system, which takes priority?**
 - A. Domestic water**
 - B. Space heating**
 - C. Cooling**
 - D. Ventilation**
- 4. On the domestic cold sizing chart, which number corresponds to a 1 1/4 inch diameter?**
 - A. 6**
 - B. 8**
 - C. 10**
 - D. 12**
- 5. During the refrigerant cycle in a split system, which phase change occurs as the refrigerant absorbs heat?**
 - A. Evaporation**
 - B. Condensation**
 - C. Compression**
 - D. Expansion**

- 6. Minimum trap arm length for a 3 inch trap arm at 1/4 inch per ft slope?**
- A. 24 inches**
 - B. 18 inches**
 - C. 12 inches**
 - D. 6 inches**
- 7. Propane expansion is listed as which of the following?**
- A. 270**
 - B. 8.5 cf**
 - C. Not specified**
 - D. 270 or 8.5 cf**
- 8. In structural design, how do dead load and live load differ?**
- A. Live load is the permanent weight of the structure.**
 - B. Dead load is the permanent weight of the structure.**
 - C. Dead load is a variable load like people and furniture.**
 - D. Live load is the weight of soil and wind.**
- 9. Gas stoves use what sensing element?**
- A. Liquid bulb**
 - B. Thermocouple**
 - C. Bimetal strip**
 - D. Photoresistor**
- 10. Which step is considered proactive during heating system installation?**
- A. Insulating pipes and ducts**
 - B. Leaving ducts unsealed**
 - C. Skipping balance testing**
 - D. Installing a non-matched thermostat**

Answers

SAMPLE

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

SAMPLE

Explanations

1. What is the actual size of a 2x4 for framing lumber?

- A. 2.0 inches by 4.0 inches.**
- B. 1.75 inches by 3.75 inches.**
- C. 1.75 inches by 3.5 inches.**
- D. 1.5 inches by 3.5 inches.**

Lumber is sold by a nominal size, but the actual size after milling and drying is smaller. For framing lumber labeled as a 2x4, the finished cross-section is 1.5 inches thick by 3.5 inches wide. The term "2x4" comes from rough-cut dimensions before planing and drying, and the milling process shaved off about a half-inch in thickness and a bit more in width. This actual size is what you use when planning joints, fitting studs into wall plates, and choosing fasteners. The other options mix rough sizes or rounding errors; the standard finished size you'll encounter in framing is 1.5" by 3.5".

2. Which symbol represents a resistor?

- A. Rectangle**
- B. Box with diagonal line inside**
- C. Arrow**
- D. Long squiggly line**

A resistor is shown in schematic diagrams by a symbol that represents a resistive element between two terminals. In the common US convention, this symbol is a long zigzag or squiggly line. That visual cue is widely recognized as the resistor symbol, which is why the option with the long squiggly line is the correct choice. Note that some standards use a simple rectangle for a resistor, but the zigzag line is the familiar sign in many diagrams. The other shapes don't represent a resistor in the standard schematics: an arrow typically indicates direction or a dependent element, and a box with a diagonal line isn't the resistor symbol in the common conventions.

3. In a multi-purpose system, which takes priority?

- A. Domestic water**
- B. Space heating**
- C. Cooling**
- D. Ventilation**

When a single heat source serves multiple needs in a multi-purpose system, the hot water demand is given top priority. Domestic water is an immediate, essential requirement for hygiene and daily living—people rely on it for washing, cooking, and sanitation, and delays can have real health and comfort implications. To ensure this, the system is designed to heat and provide domestic hot water first, often using a priority arrangement so heat goes to the hot-water circuit before to space heating or other loads. Only after the hot-water demand is met does energy get diverted to space heating, cooling, or ventilation if needed. Ventilation remains important for air quality, but it is typically managed separately and can operate with existing supply while hot water is being prioritized.

4. On the domestic cold sizing chart, which number corresponds to a 1 1/4 inch diameter?

- A. 6
- B. 8
- C. 10**
- D. 12

The main idea is that the domestic cold sizing chart translates a physical diameter into a simple numeric label used for fittings. In this chart, standard pipe sizes increase in quarter-inch steps and each size is assigned an even-number label: 3/4" maps to 6, 1" maps to 8, 1 1/4" maps to 10, and 1 1/2" maps to 12. So a diameter of 1 1/4 inch corresponds to the numeric label 10 on the chart. The other options would align with smaller or larger diameters, so they don't match this size.

5. During the refrigerant cycle in a split system, which phase change occurs as the refrigerant absorbs heat?

- A. Evaporation**
- B. Condensation
- C. Compression
- D. Expansion

In the evaporator, heat is absorbed from the surroundings, and the liquid refrigerant changes to a gas. This phase change from liquid to vapor is evaporation, driven by the heat input at low pressure. The evaporator's job is precisely to remove heat by allowing this latent heat of vaporization to be absorbed, producing the cooling effect. Condensation would occur when gas loses heat and becomes liquid in the condenser, compression increases pressure without a phase change, and expansion throttles the refrigerant lowering pressure and temperature but doesn't involve heat absorption to change phase. So the phase change during heat absorption is evaporation.

6. Minimum trap arm length for a 3 inch trap arm at 1/4 inch per ft slope?

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

The concept here is how the trap size and slope influence the required minimum distance from the trap to the vent, i.e., the trap arm length. Larger traps need a longer trap arm to maintain proper venting and prevent siphoning of the trap water seal. For a trap that is 3 inches in diameter and using the standard slope of 1/4 inch per foot, the code/table guidance sets the minimum allowable trap arm length at 18 inches. This is the shortest run that still meets the venting requirements for this trap size with that slope. Shorter lengths would not satisfy the minimum, while a longer length would simply be more than needed but still acceptable. So, the smallest acceptable trap arm length is 18 inches.

7. Propane expansion is listed as which of the following?

- A. 270
- B. 8.5 cf
- C. Not specified
- D. 270 or 8.5 cf**

Propane expansion is the large increase in volume that occurs when propane changes from liquid to gas. The standard figure is about 270 to 1, meaning one unit of liquid propane becomes roughly 270 units of gas. Translating that to gas volume, 1 pound of liquid propane yields about 8.5 cubic feet of propane gas at standard conditions. So the expansion can be expressed either as the 270:1 ratio or as about 8.5 cubic feet of gas per pound of liquid propane. That's why listing either form is correct—the two descriptions describe the same expansion phenomenon.

8. In structural design, how do dead load and live load differ?

- A. Live load is the permanent weight of the structure.
- B. Dead load is the permanent weight of the structure.**
- C. Dead load is a variable load like people and furniture.
- D. Live load is the weight of soil and wind.

The main idea is how loads on a structure are categorized for design: dead loads are the permanent, static weights, while live loads are the loads that can change with usage. Dead loads come from the structure itself and fixed elements—things like beams, floors, walls, and fixed finishes. Live loads come from occupancy and use—people, furniture, movable equipment, and other items that can be added or removed over time. This makes sense because a building must be designed to carry both a constant weight that never changes and varying weights that depend on how the space is used. The statement that live load is the permanent weight is not accurate, since live loads are the variable, use-related loads. Conversely, dead load being the permanent weight correctly captures that aspect. The idea that dead load is a variable load like people and furniture is also incorrect, since those are live loads. And the notion that live load is the weight of soil and wind mixes in environmental effects, which aren't classified as live loads in the basic distinction. So, the correct concept is that dead load is the structure's permanent weight.

9. Gas stoves use what sensing element?

- A. Liquid bulb**
- B. Thermocouple
- C. Bimetal strip
- D. Photoresistor

Gas stoves often use a temperature-sensitive element to regulate the gas flow, and a liquid-filled sensing bulb is a classic way this is done. The bulb sits in contact with the area being heated; as it warms up, the liquid inside expands and presses on a capillary, moving a diaphragm or valve mechanism that adjusts the gas supply. This gives a simple, passive way to sense temperature and regulate flame or oven heat without electronics. Other sensing options operate differently: a thermocouple detects flame presence by generating a small electric signal to keep the gas valve open, a bimetal strip relies on metal expansion to actuate switches, and a photoresistor responds to light rather than temperature or flame. In the context of gas stove temperature regulation, the liquid-bulb approach is the chosen sensing element.

10. Which step is considered proactive during heating system installation?

A. Insulating pipes and ducts

B. Leaving ducts unsealed

C. Skipping balance testing

D. Installing a non-matched thermostat

Proactive steps during heating system installation focus on preventing energy loss and ensuring reliable operation from the start. Insulating pipes and ducts does this by minimizing heat transfer to surrounding spaces as the heated air or water travels from the furnace to rooms, so less energy is wasted and the system maintains the desired temperature more efficiently. It also helps reduce condensate and potential moisture issues on cold surfaces. Leaving ducts unsealed wastes energy through leaks, forcing the system to work harder to deliver the same amount of heat. Skipping balance testing can lead to uneven airflow and comfort problems, with some rooms getting too hot or too cold. Installing a thermostat that is not matched to the system can cause poor temperature control and inefficiency. Insulation directly improves efficiency and comfort, making it the proactive choice.

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://tqpractice3rdyear.examzify.com>

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