

ICC Residential Electrical Inspector Level 1 (E1) 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

SAMPLE

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

SAMPLE

- 1. The grounded service-supplied alternating current system shall have an _____ main bonding jumper used to connect EGC to the grounded conductor.**
 - A. soldered**
 - B. spliced**
 - C. unsliced**
 - D. crimped**

- 2. What is the minimum copper conductor size permitted for lighting circuits having more than two outlets protected by a 15-amp breaker?**
 - A. 12 AWG**
 - B. 14 AWG**
 - C. 16 AWG**
 - D. 10 AWG**

- 3. For kitchen countertop receptacles, the minimum number of 20-amp branch circuits required is:**
 - A. One**
 - B. Two**
 - C. Three**
 - D. Four**

- 4. What is the maximum distance along a kitchen counter wall between receptacles?**
 - A. 2 ft**
 - B. 4 ft**
 - C. 6 ft**
 - D. 8 ft**

- 5. The maximum length for a built-in dishwasher is specified in NEC clause 422.16(B)(2). Which statement reflects that limit?**
 - A. 78 inches**
 - B. 66 inches**
 - C. 84 inches**
 - D. 72 inches**

- 6. Which NEC section prohibits splices or taps in flex cords?**
- A. NEC 400.13**
 - B. NEC 310.15**
 - C. NEC 250.122**
 - D. NEC 406.9**
- 7. When an NM exposed cable passes through a floor, the cable is permitted to be protected by which wiring method?**
- A. RTRC-XW**
 - B. EMT**
 - C. FMC**
 - D. PVC conduit**
- 8. What type of location must interiors of underground raceways be considered when installing conductors within locations?**
- A. Dry locations**
 - B. Damp locations**
 - C. Wet locations**
 - D. Corrosive locations**
- 9. Which statement is true about the minimum number of branch circuits needed for receptacle outlets in a detached garage with electric power?**
- A. Two**
 - B. One**
 - C. Three**
 - D. Four**
- 10. What is considered a concrete-encased electrode?**
- A. Two 10 ft 1/2 inch diameter bare steel reinforcing bars connecting together by the usual steel tie wires encased in 6 inches of concrete located horizontally in the building foundation and in direct contact with the earth**
 - B. A copper rod 8 feet long**
 - C. A water pipe near the building**
 - D. A single steel reinforcing bar 4 feet long**

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. The grounded service-supplied alternating current system shall have an _____ main bonding jumper used to connect EGC to the grounded conductor.

- A. soldered
- B. spliced
- C. unsliced**
- D. crimped

The main bonding jumper is the continuous path that ties the grounded conductor (neutral) to the grounding-electrode conductor at the service equipment, creating a solid bond between the system's neutral and the earth. To keep this bond reliable, the jumper must be a single, uninterrupted piece of conductor. An unsliced jumper provides a low, consistent impedance path with no joints that could loosen, corrode, or fail over time. Joints such as soldered, spliced, or crimped connections introduce potential failure points and higher resistance, which can compromise the bond and the system's fault-current path. So the best choice is an unsliced main bonding jumper.

2. What is the minimum copper conductor size permitted for lighting circuits having more than two outlets protected by a 15-amp breaker?

- A. 12 AWG
- B. 14 AWG**
- C. 16 AWG
- D. 10 AWG

For a lighting circuit protected by a 15-amp breaker, the conductor must be at least 14 AWG copper. This matches the 15-amp protection: 14 AWG copper is rated to carry up to 15 amps, so using it ensures the wire won't overheat if the circuit is loaded to its limit. Using a smaller size (like 16 AWG) would be undersized for a 15-amp circuit and isn't permitted, while larger conductors (12 or 10 AWG) are allowed but not required for this breaker size. The fact there are more than two outlets doesn't change this minimum—the 15-amp protection governs the minimum conductor size. In practice, 14/2 NM cable is commonly used for such 15-amp lighting circuits.

3. For kitchen countertop receptacles, the minimum number of 20-amp branch circuits required is:

- A. One
- B. Two**
- C. Three
- D. Four

The key idea is that kitchens require dedicated small-appliance circuits to feed countertop receptacles. This setup prevents overloading a single circuit when multiple countertop appliances are used at once and keeps lighting on separate circuits. The minimum number of 20-amp circuits specified for these countertop outlets is two. These circuits must supply only receptacle outlets located along the kitchen countertop surfaces (including islands and peninsulas) and are intended to handle typical small-appliance loads like toasters, blenders, and coffee makers. You can have more than two circuits, but two is the required minimum. Also, in kitchens, these receptacles must be GFCI protected.

4. What is the maximum distance along a kitchen counter wall between receptacles?

- A. 2 ft**
- B. 4 ft
- C. 6 ft
- D. 8 ft

The main idea is that countertop receptacles must cover every point on the work surface so no spot is more than 24 inches from a receptacle. If receptacles are spaced along the wall, the gap between them can be at most 4 feet, because the farthest point between two outlets is at the midpoint and would be 2 feet from each receptacle, meeting the 24-inch rule. So the maximum distance between receptacles along a kitchen counter wall is 4 feet. A 2-foot spacing would be compliant, but it's not the maximum allowed.

5. The maximum length for a built-in dishwasher is specified in NEC clause 422.16(B)(2). Which statement reflects that limit?

- A. 78 inches**
- B. 66 inches
- C. 84 inches
- D. 72 inches

The limit being tested is how far the built-in dishwasher's power connection can extend into the cabinet space. NEC 422.16(B)(2) sets a maximum length for that connection to ensure the cord or conducting path can be routed safely inside typical kitchen cabinetry, with proper strain relief and no undue stress on terminations or interference with other components. The permitted maximum is 78 inches, which balances enough reach in common layouts with the need to keep wiring within safe, organized bounds. If more length is required, the installation should use a fixed wiring method or an approved in-cabinet receptacle setup rather than exceeding the listed maximum, to maintain electrical safety and reliability.

6. Which NEC section prohibits splices or taps in flex cords?

- A. NEC 400.13**
- B. NEC 310.15**
- C. NEC 250.122**
- D. NEC 406.9**

The main concept here is that flexible cords are not allowed to be spliced or tapped in the field. Flexible cords are designed to be continuous from plug to appliance, with a secure termination at each end. Introducing a splice or tap inside the cord creates a weak point where insulation can crack, connections can loosen, and the cord can overheat, compromising safety and reliability. That specific prohibition is stated in NEC 400.13. The other sections pull in different topics—one deals with ampacity and how conductors carry current under different conditions, another with sizing for equipment grounding conductors, and another with receptacle-related rules—so they don't govern splices in flex cords.

7. When an NM exposed cable passes through a floor, the cable is permitted to be protected by which wiring method?

- A. RTRC-XW**
- B. EMT**
- C. FMC**
- D. PVC conduit**

Protecting NM cable where it passes through a floor requires a listed through-floor protection method. RTRC-XW is a listed protection system designed specifically for NM conductors going through floors, providing a rigid, durable path that guards the cable from nails, screws, and abrasion as it transitions between levels. The other options—EMT, FMC, or PVC conduit—are different protective raceways and aren't the approved through-floor protection method in this situation.

8. What type of location must interiors of underground raceways be considered when installing conductors within locations?

- A. Dry locations**
- B. Damp locations**
- C. Wet locations**
- D. Corrosive locations**

Interiors of underground raceways are subject to regular moisture from groundwater, humidity, and possible water ingress, so they are classified as wet locations. This classification matters because conductors and equipment installed in wet locations must be rated for moisture exposure, ensuring insulation and enclosure materials can withstand continual wet conditions. Dry locations have little to no moisture, and damp locations have some moisture but not full wet exposure. Corrosive locations relate to exposure to corrosive chemicals or vapors, which is a separate consideration from moisture class. In this scenario, the defining factor is the presence of water, making it a wet location.

9. Which statement is true about the minimum number of branch circuits needed for receptacle outlets in a detached garage with electric power?

- A. Two
- B. One**
- C. Three
- D. Four

Garage receptacle outlets are required to be on a 20-amp branch circuit, and a single 20-amp circuit can feed all the receptacles in a detached garage. Therefore, the minimum number of branch circuits needed to supply receptacle outlets in a detached garage is one. You could add more circuits if you want to separate loads or reduce nuisance tripping, but it isn't required by the minimum rule. (Other parts of the garage electrical system, like lighting or dedicated tools, may have their own circuit considerations, but for receptacles alone, one 20-amp circuit covers the minimum.)

10. What is considered a concrete-encased electrode?

- A. Two 10 ft 1/2 inch diameter bare steel reinforcing bars connecting together by the usual steel tie wires encased in 6 inches of concrete located horizontally in the building foundation and in direct contact with the earth**
- B. A copper rod 8 feet long
- C. A water pipe near the building
- D. A single steel reinforcing bar 4 feet long

A concrete-encased electrode is a grounding path formed by metal that is embedded in concrete within the building's foundation and in contact with the earth. The concrete surrounding the metal provides the conductive path to soil, creating a robust grounding electrode. The described setup fits perfectly: two bare steel reinforcing bars of substantial length are connected together with tie wires and encased in a thick section of concrete in the foundation, directly contacting the earth. This is exactly how a concrete-encased electrode is implemented, leveraging the reinforcing steel buried in concrete to establish a reliable ground. Other options don't meet this configuration: a copper rod alone isn't embedded in concrete; a water pipe near the building isn't the concrete-encased type; and a single reinforcing bar not stated as encased in concrete wouldn't qualify as a concrete-encased electrode.

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://iccreselecinspectore1.examzify.com>

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

SAMPLE