

CERTIFIED SURVEY TECHNICIAN LEVEL 1 PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
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. In the case of a snake bite, what should you not do?**
 - A. Remain calm
 - B. Attempt to suck out the venom
 - C. Keep the bitten limb still
 - D. Get to medical help as soon as possible
- 2. What is one of the most crucial factors in accurately measuring a distance using a steel tape?**
 - A. Proper alignment with a benchmark
 - B. Proper temperature correction
 - C. Consistent tension on the tape
 - D. Using a stable base
- 3. What is three wire leveling?**
 - A. A technique involving single rod readings
 - B. A straightforward method of differential leveling
 - C. A precise technique where rod readings are averaged from each wire
 - D. A technique for vertical angle measurements
- 4. What is the formula to calculate the number of sides in a polygon if given the sum of interior angles?**
 - A. $n = (\text{sum} / 180) + 2$
 - B. $n = (\text{sum} / 180) - 2$
 - C. $n = (\text{sum} + 360) / 180$
 - D. $n = (\text{sum} + 2) / 180$
- 5. What is the significance of the crosshair in surveying instruments?**
 - A. To measure angles only
 - B. To assist in aiming at a target
 - C. To adjust for elevation
 - D. To provide a visual aid for measurements

6. Which instrument is most commonly used to run a benchmark circuit?

- A. Self-leveling level
- B. Barometric altimeter
- C. Digital tape measure
- D. Automatic total station

7. Who is responsible for overall safety on a construction project?

- A. The lead contractor
- B. Everyone working on the project
- C. The site safety supervisor
- D. The engineer

8. Which method is commonly used for measuring long distances in surveying?

- A. Optical rangefinder
- B. Electronic distance measurement (EDM)
- C. Triangulation
- D. String line method

9. In surveying, what does the term "benchmark" refer to?

- A. A reference point of known elevation
- B. A temporary marker for land boundaries
- C. A leveling instrument
- D. A GPS reference point

10. The alternating colors on a range pole are usually what colors?

- A. Blue and Yellow
- B. White and Black
- C. White and Red
- D. Green and Yellow

Answers

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

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Explanations

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1. In the case of a snake bite, what should you not do?

- A. Remain calm
- B. Attempt to suck out the venom**
- C. Keep the bitten limb still
- D. Get to medical help as soon as possible

Attempting to suck out the venom from a snake bite is not a recommended practice and can actually do more harm than good. This method has been widely discredited because it can introduce bacteria into the wound, potentially leading to infection, and may also result in additional tissue damage. The human mouth contains bacteria that could complicate the situation. Remaining calm helps to slow the spread of venom and keeps the victim's heart rate stable. Keeping the bitten limb still and at or below heart level minimizes the circulation of venom. Seeking medical help as soon as possible is crucial since professional treatment may involve antivenom or additional medical interventions. Thus, avoiding the attempt to suck out venom is critical for ensuring proper care and safety.

2. What is one of the most crucial factors in accurately measuring a distance using a steel tape?

- A. Proper alignment with a benchmark
- B. Proper temperature correction**
- C. Consistent tension on the tape
- D. Using a stable base

Proper temperature correction is critical when measuring distances with a steel tape because the length of the tape can change depending on the temperature. Steel expands when heated and contracts when cooled. This means that if the temperature during measurement is different from the temperature at which the tape's scale was calibrated, the measurement will be inaccurate. To ensure accuracy, surveyors must account for the temperature at the time of measurement and apply a correction factor to the distance measured. This correction can significantly impact the final results, especially over long distances, where even a small change in tape length can lead to substantial errors. In addition to temperature, other factors like alignment with a benchmark, tension on the tape, and using a stable base are also important for accurate measurements, but they do not influence the physical dimensions of the steel tape itself the way temperature does. Ensuring temperature correction allows for a more precise measurement that reflects true distance irrespective of environmental changes.

3. What is three wire leveling?

- A. A technique involving single rod readings
- B. A straightforward method of differential leveling
- C. A precise technique where rod readings are averaged from each wire**
- D. A technique for vertical angle measurements

Three wire leveling is a precise technique used in leveling operations where measurements are taken using three wires—typically two outer wires and one central wire—on a leveling rod. The primary advantage of using three wires is that it allows for averaged readings to accommodate slight errors and improve accuracy. By taking readings from each wire separately, surveyors can calculate an average elevation, which reduces the impact of any individual reading that might be skewed due to slight misalignments or variations in rod placement. This method proves beneficial in ensuring that the readings are consistent and reliable, thus enhancing the overall precision of the leveling process. It contrasts with other leveling techniques, such as differential leveling or the use of a single rod reading, which may not provide the same level of accuracy due to the increased potential for error.

4. What is the formula to calculate the number of sides in a polygon if given the sum of interior angles?

A. $n = (\text{sum} / 180) + 2$

B. $n = (\text{sum} / 180) - 2$

C. $n = (\text{sum} + 360) / 180$

D. $n = (\text{sum} + 2) / 180$

The formula for calculating the number of sides in a polygon based on the sum of its interior angles is derived from the relationship between the number of sides (n) and the sum of interior angles. The sum of the interior angles of a polygon with n sides can be calculated using the formula: $\text{Sum} = (n - 2) * 180$. To isolate n and formulate it in terms of the sum, you rearrange this equation. Starting with: $\text{Sum} = (n - 2) * 180$ you can divide both sides by 180: $\text{Sum} / 180 = n - 2$. By adding 2 to both sides, you get: $n = (\text{Sum} / 180) + 2$. This establishes that if you know the sum of the interior angles of a polygon, you can determine the number of sides by this formula. Therefore, the correct answer effectively captures this relationship, confirming that the number of sides is directly calculated from the sum of the interior angles.

5. What is the significance of the crosshair in surveying instruments?

A. To measure angles only

B. To assist in aiming at a target

C. To adjust for elevation

D. To provide a visual aid for measurements

The crosshair in surveying instruments plays a crucial role by aiding the operator in accurately aiming at specific targets or points within the field of view. Its primary function is to create a reference point that allows the surveyor to align the instrument precisely with the object being measured or observed. This alignment is essential for ensuring that readings and measurements are taken with high precision, reducing the likelihood of errors in data collection. While aiming at a target, the crosshair enhances the clarity of the surveyor's line of sight and allows for a visual means to assess whether the instrument is correctly aligned with the point of interest. This ensures that the collected data is reliable and consistent, which is particularly important in surveying where precise angles and distances are crucial for accurate mapping and data analysis. The other options reflect functions that are more specialized or indirect and do not capture the primary utility of the crosshair in instruments used for surveying. Thus, the crosshair's main significance lies in its ability to assist in direct aiming, which is foundational for accurate surveying practices.

6. Which instrument is most commonly used to run a benchmark circuit?

- A. Self-leveling level**
- B. Barometric altimeter
- C. Digital tape measure
- D. Automatic total station

The self-leveling level is the most commonly used instrument for running a benchmark circuit due to its ability to provide precise horizontal measurements. This instrument allows surveyors to establish a level line across varying elevations, which is crucial for accurate benchmarking. It utilizes a pendulum mechanism to ensure that the line of sight remains perfectly level, compensating for any tilt caused by uneven ground. In a benchmark circuit, maintaining an accurate reference elevation is essential for various surveying tasks, such as establishing control points, height measurements, and elevation corrections. The self-leveling feature of this instrument significantly reduces the time required for setup and increases the overall accuracy of the measurements taken. While the other instruments have their specific applications—like the barometric altimeter which can measure altitude changes based on atmospheric pressure, the digital tape measure known for length measurement precision, and the automatic total station useful for angle and distance measurements—the self-leveling level specifically excels in establishing and maintaining a reliable and consistent elevation over a distance, making it the preferred choice for benchmark circuits.

7. Who is responsible for overall safety on a construction project?

- A. The lead contractor
- B. Everyone working on the project**
- C. The site safety supervisor
- D. The engineer

In a construction project, safety is a collective responsibility that involves everyone working on the site. This includes not only the workers but also contractors, supervisors, and management personnel. Each individual has a role in maintaining a safe work environment by following safety protocols, wearing appropriate personal protective equipment, reporting hazards, and adhering to the safety guidelines established by the project. When everyone participates actively in safety measures, it creates a culture of safety that helps to prevent accidents and injuries. This collective approach means that while certain individuals may have specific roles in overseeing safety (like the safety supervisor), the responsibility ultimately falls to each person on the project. This makes it essential for everyone to be vigilant and proactive about safety practices throughout the entirety of the construction process.

8. Which method is commonly used for measuring long distances in surveying?

- A. Optical rangefinder
- B. Electronic distance measurement (EDM)**
- C. Triangulation
- D. String line method

The electronic distance measurement (EDM) method is commonly used for measuring long distances in surveying due to its precision and efficiency. EDM devices calculate distances by using the time it takes for a signal, typically a laser or radio wave, to travel to a target and back to the instrument. This method allows for rapid measurements over great distances, which is essential for modern surveying practices that require accuracy and the ability to cover extensive areas in a short amount of time. Compared to other methods, EDM is highly accurate and can be used in various conditions, including less-than-ideal weather, making it a preferred choice in many surveying applications. The technology behind EDM has improved significantly and is associated with automated data collection, which reduces human error and increases reliability. Other methods, such as optical rangefinders, while useful for shorter distances or specific applications, may not provide the same level of precision or efficiency over long distances. Triangulation is a fundamental concept in surveying but requires multiple measurements and can be less effective in areas where clear lines of sight are not available. The string line method is limited to smaller measurements and is more applicable in construction or layout tasks rather than surveying long distances.

9. In surveying, what does the term "benchmark" refer to?

- A. A reference point of known elevation**
- B. A temporary marker for land boundaries
- C. A leveling instrument
- D. A GPS reference point

The term "benchmark" in surveying refers to a reference point of known elevation. Benchmarks are critical in establishing elevations and serve as a point of reference for various surveying and construction activities. These stationary markers have been precisely surveyed and their elevation accurately measured, making them reliable points for determining the altitude of other points. When a surveyor needs to establish a level plane or compare the elevation of different locations, they will often refer back to a benchmark. In practice, benchmarks are often used in topographic surveys, engineering projects, and construction, as they provide a consistent frame of reference. This allows surveyors to ensure accuracy and reliability in their elevation data, which is especially important in larger projects where variations in elevation can significantly affect design and construction decisions. Therefore, understanding benchmarks and their application is essential for anyone involved in surveying or related fields.

10. The alternating colors on a range pole are usually what colors?

- A. Blue and Yellow
- B. White and Black
- C. White and Red
- D. Green and Yellow

The alternating colors on a range pole are typically white and red. These colors are chosen for their high visibility and contrast against various backgrounds, making them easily distinguishable in different environments. White provides a neutral, bright base, while red serves as a cautionary color that draws attention. This combination is particularly effective for delineating boundaries in surveying and encourages safe navigation in and around surveyed areas, ensuring that the range pole is noticed by operators utilizing surveying equipment. While other color combinations might be used in different contexts, white and red are especially common due to their distinct visibility and recognition across varying terrains, making them a standard choice in the field of surveying.

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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://surveytechlvl1.examzify.com>

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

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