

Certified Survey Technician Level 1 Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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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. When using a plumb bob in a slight wind, you should...**
 - A. Let it hang freely**
 - B. Stabilize it with your hand**
 - C. Bounce the plumb bob lightly on the point**
 - D. Wait for calm conditions**

- 2. Which of the following tools is primarily used to measure angles in surveying?**
 - A. Measuring wheel**
 - B. Theodolite**
 - C. Surveying tape**
 - D. GPS unit**

- 3. What tool is typically used for measuring angles in surveying?**
 - A. Plumb bob**
 - B. Transit**
 - C. Caliper**
 - D. Level rod**

- 4. What type of curve is represented in a plotted road profile?**
 - A. Vertical curve**
 - B. Horizontal curve**
 - C. Spiral curve**
 - D. Circular curve**

- 5. What measurement unit is used to convert feet to chains?**
 - A. 5280 feet**
 - B. 66 feet**
 - C. 100 feet**
 - D. 360 feet**

- 6. The error resulting from using a tape that is too short is known as what kind of error?**
- A. Systematic error**
 - B. Cumulative error**
 - C. Random error**
 - D. Absolute error**
- 7. During chainsaw operations, which of the following practices should be observed?**
- A. Chainsaws should always be carried while running**
 - B. Chainsaws should be started at least 10 feet away from a fueling source**
 - C. Chainsaws can be operated with one hand**
 - D. PPE is optional when using a chainsaw**
- 8. Why is accuracy important when taking field notes?**
- A. To ensure the field notes are obtained quickly**
 - B. To provide a precise record of survey operations**
 - C. To allow for more creative interpretations**
 - D. To minimize the need for equipment**
- 9. 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**
- 10. Describe azimuths in surveying terms.**
- A. Angles measured from the east in a clockwise direction**
 - B. Angles measured from the north in a counterclockwise direction**
 - C. Angles measured from the south in a clockwise direction**
 - D. Angles measured from the north in a clockwise direction**

Answers

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

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Explanations

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1. When using a plumb bob in a slight wind, you should...

- A. Let it hang freely**
- B. Stabilize it with your hand**
- C. Bounce the plumb bob lightly on the point**
- D. Wait for calm conditions**

The most effective approach when using a plumb bob in a slight wind is to let the tool hang freely. This allows the plumb bob to find its true vertical alignment according to the gravitational pull. If you attempt to stabilize it with your hand or wait for calm conditions, you may inadvertently introduce inaccuracies, as the plumb bob needs to respond to the forces acting upon it without interference. Allowing it to bounce lightly on the point can help in ensuring direct contact and can help find the vertical alignment more quickly. However, it's crucial to remember that the assignment of the plumb line under wind conditions generally leads to more consistent and precise vertical readings when left to swing freely, as it will naturally settle into the correct position once the wind's influence diminishes.

2. Which of the following tools is primarily used to measure angles in surveying?

- A. Measuring wheel**
- B. Theodolite**
- C. Surveying tape**
- D. GPS unit**

The theodolite is a precision instrument specifically designed for measuring angles in both horizontal and vertical planes. It consists of a movable telescope mounted on a tripod, allowing surveyors to determine angular measurements with high accuracy. The theodolite is essential for various surveying applications, including construction, land division, and topographical surveys, as it helps in establishing points and lines based on angle measurements. Other tools mentioned serve different purposes: a measuring wheel is typically used for distance measurement along a surface, a surveying tape is used for linear distance measurements, and a GPS unit primarily provides geographic positioning and does not directly measure angles. The unique capability of the theodolite to offer precise angular measurements makes it the tool of choice for surveying tasks that require such data.

3. What tool is typically used for measuring angles in surveying?

- A. Plumb bob
- B. Transit**
- C. Caliper
- D. Level rod

The transit is the tool typically used for measuring angles in surveying. Designed specifically for this purpose, it consists of a telescope mounted on a tripod that can be rotated horizontally and vertically. This capability allows surveyors to obtain precise angle measurements between points. The transit can also be used to sight distant objects and determine their elevation, making it invaluable in various surveying tasks. In contrast, a plumb bob is primarily utilized for establishing a vertical reference line. A caliper is used for measuring distances or dimensions, particularly in mechanical applications, while a level rod helps in determining horizontal levels but does not measure angles. Each of these tools has its specific applications, but for the measurement of angles, the transit is the most suitable choice due to its design and functionality in the surveying field.

4. What type of curve is represented in a plotted road profile?

- A. Vertical curve**
- B. Horizontal curve
- C. Spiral curve
- D. Circular curve

The type of curve represented in a plotted road profile is best described as a vertical curve. In road design and surveying, vertical curves are used to provide a smooth transition between different grades or slopes of a roadway. They are essential for safe driving, as they help to ensure that vehicles can navigate changes in elevation comfortably and without abrupt changes that could lead to loss of control. Vertical curves also help to manage sight distances and drainage effectively. By incorporating such curves in a road profile, engineers can determine optimal road grades while maintaining safety and comfort for drivers. This is particularly important in hilly or undulating terrain where elevation changes occur frequently. Other types of curves, such as horizontal curves and spiral curves, pertain to the horizontal alignment of the road rather than changes in elevation. A circular curve is a specific type of horizontal curve that maintains a constant radius. Segmenting these different types of curves in design and planning is crucial, but for profiles representing elevation changes, vertical curves are the relevant feature.

5. What measurement unit is used to convert feet to chains?

- A. 5280 feet
- B. 66 feet**
- C. 100 feet
- D. 360 feet

To convert feet to chains, it is important to note that one chain is defined as 66 feet. This measurement is part of the surveyor's units and is used in land surveying, particularly in the United States. A chain consists of 100 links, with each link measuring 7.92 inches; when you multiply the length of a chain by the number of feet in it (66), you verify the equivalence. This allows surveyors to easily translate land measurements into a more manageable unit without needing to deal with larger numbers. The other options presented do not correspond to the length of a chain. For instance, 5280 feet corresponds to one mile, which is not relevant for the conversion to chains, and the other options—100 feet and 360 feet—do not accurately represent a chain's length either. Thus, the choice that correctly identifies the unit used for converting feet to chains is indeed 66 feet.

6. The error resulting from using a tape that is too short is known as what kind of error?

- A. Systematic error
- B. Cumulative error**
- C. Random error
- D. Absolute error

The correct identification of the error resulting from using a tape that is too short relates to systematic error. This type of error occurs consistently whenever measurements are taken with the faulty tape, leading to a predictable and repeatable inaccuracy in the measurement results. Systematic errors are typically associated with a flaw in the measurement instrument or procedure that leads to consistent deviations from the true value. In this case, using a tape that is consistently shorter than its stated length causes every measurement taken with it to be inaccurately scaled down, causing all recorded distances to be less than they actually are. Since this error does not change randomly with each measurement, it fits the definition of a systematic error perfectly. Cumulative errors, on the other hand, are related to the accumulation of small systematic or random errors over a series of measurements, resulting in a more significant overall deviation. Random errors are unpredictable variations in measurements due to factors that are difficult to control, such as environmental conditions, and absolute errors refer to the difference between a measured value and the true value, not specifically linked to the use of a tape that is too short. Therefore, identifying the error from a consistently short tape as systematic aligns with the foundational principles of measurement errors in surveying.

7. During chainsaw operations, which of the following practices should be observed?
- A. Chainsaws should always be carried while running
 - B. Chainsaws should be started at least 10 feet away from a fueling source**
 - C. Chainsaws can be operated with one hand
 - D. PPE is optional when using a chainsaw

Starting a chainsaw at least 10 feet away from a fueling source is an essential safety practice designed to minimize the risk of fire and ensure the safety of the operator. Fueling a chainsaw poses a significant fire hazard, as fuel vapors can ignite if the chainsaw is started too close to the fueling area. By maintaining this distance, the risk of an accident caused by sparks or heat generated during ignition is significantly reduced, promoting a safer working environment. Other practices that are not considered safe include carrying a running chainsaw, which increases the risk of accidents and injuries, particularly if the operator stumbles or loses control. Operating a chainsaw with one hand is also unsafe, as it reduces stability and control over the tool, particularly during cut operations. Additionally, personal protective equipment (PPE) is crucial for ensuring the safety of the operator. It protects against potential injuries from chainsaw accidents, so it is not optional but rather a required safety measure.

8. Why is accuracy important when taking field notes?
- A. To ensure the field notes are obtained quickly
 - B. To provide a precise record of survey operations**
 - C. To allow for more creative interpretations
 - D. To minimize the need for equipment

Accuracy is fundamental when taking field notes because it provides a precise record of survey operations. When conducting surveys, the data collected must be reliable and exact, as these notes serve as a legal document and guide for future reference. Accurate field notes ensure that the measurements and observations are recorded correctly, which is essential for reproducing results, verifying the integrity of the data, and making informed decisions based on the survey findings. This precision facilitates effective communication among surveyors and other stakeholders involved in the project, ultimately upholding the quality and credibility of the surveying work. High accuracy in field notes also aids in identifying and resolving discrepancies that may arise during data analysis or application in engineering or planning contexts.

9. 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.

10. Describe azimuths in surveying terms.

- A. Angles measured from the east in a clockwise direction**
- B. Angles measured from the north in a counterclockwise direction**
- C. Angles measured from the south in a clockwise direction**
- D. Angles measured from the north in a clockwise direction**

In surveying, azimuths are defined as the angles measured from a reference direction, typically north, in a clockwise direction. This means that when determining the azimuth of a specific point or line, one starts at true north (0 degrees) and measures the angle moving clockwise around the compass until reaching the target direction. This systematic approach allows for a consistent and standardized method to communicate directions in surveying. By using north as the reference point and measuring clockwise, azimuths can be easily understood and utilized in various surveying applications, such as mapping and navigation. The other descriptions of azimuths do not adhere to this standard definition. For instance, measuring angles from the east or the south would not align with the conventional practice of using true north as the baseline for measuring azimuths.

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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