# NSPS CERTIFIED SURVEY TECHNICIAN (CST) LEVEL 2 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.

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# 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!

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# Questions

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**1. What is a prism pole and its purpose?**

A. A device used to measure atmospheric conditions.

B. A pole used to plant markers.

C. A prism pole that holds a prism for reflections in EDM measurements to improve distance measurement accuracy.

D. A marking rod used for leveling.

**2. What is differential leveling and what equipment is used?**

A. A procedure to measure horizontal angles using a theodolite.

B. A technique to compute area using survey marks.

C. A process to establish magnetic north.

D. A method of determining elevation differences using a level, a staff, and a stable point.

**3. See figure 30. If the elevation of the 60' road is 70.00' and the slope from the outlet to the edge of the road is 1:1, what is the horizontal dimension from the road centerline to the outlet elevation point?**

A. 42.72

B. 35.00

C. 60.00

D. 50.00

**4. Which reading provides the elevation of the point ahead of the instrument in leveling?**

A. Foresight reading

B. Backsight reading

C. Direct reading

D. Intermediary reading

**5. What is a common method used to determine distances between points in field surveys?**

A. Tape or EDM measurements

B. Only GPS

C. Visual estimation

D. Theodolite height measurement only

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**6. In an office where clients and the public see you frequently, the most reasonable rule for dress would be:**

A. Formal attire only

B. Casual wear is acceptable

C. Image and practicality

D. Safety gear at all times

**7. To stake the Point of Tangency of a curve in the field you need to calculate the Long Chord of the Curve. What is the calculated length of the Long Chord, if the Radius of the Curve is 1200' and the delta is 20 degrees**

A. 416.76'

B. 2363.0'

C. 1200'

D. 2400'

**8. What is the line of collimation error, and how can it be minimized?**

A. An error caused by atmosphere only

B. A distance measurement error due to tape length

C. A misalignment between telescope sight line and the instrument's reference; minimize with proper calibration, checks, and centering.

D. A misreading of a horizontal angle due to a defective lens

**9. What is the decimal value of 17 Degrees 25?**

A. 17.50 Degrees

B. 17.42 Degrees

C. 17.4167 Degrees

D. 17.60 Degrees

**10. Which entity specifically develops standards and specifications for geodetic surveys?**

A. Federal Geodetic Control Subcommittee

B. National Geodetic Survey

C. American Society of Surveyors

D. United States Geological Survey

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# Answers

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

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# Explanations

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## 1. What is a prism pole and its purpose?

A. A device used to measure atmospheric conditions.

B. A pole used to plant markers.

C. A prism pole that holds a prism for reflections in EDM measurements to improve distance measurement accuracy.

D. A marking rod used for leveling.

*A prism pole is a pole with a mounted prism that serves as a reflective target for electronic distance measurement. The prism reflects the EDM instrument's signal back to the device, allowing the distance to the target to be calculated with high accuracy. Placing the prism on a pole lets you position it precisely at the survey point and adjust its height so the instrument's line of sight hits the prism directly, which reduces errors from angle and target height. This purpose is specific to EDM accuracy, unlike devices meant for measuring atmospheric conditions or tools used only for leveling or marker placement.*

## 2. What is differential leveling and what equipment is used?

A. A procedure to measure horizontal angles using a theodolite.

B. A technique to compute area using survey marks.

C. A process to establish magnetic north.

D. A method of determining elevation differences using a level, a staff, and a stable point.

*Differential leveling is a method used to determine elevation differences between points by comparing heights with a leveling instrument and a graduated staff. The essential equipment includes a level (such as an automatic or dumpy level) mounted on a tripod, a graduated leveling staff or rod, and a stable reference point or benchmark. In practice, you set up the level over a known point, take a backsight reading to establish the instrument height, then move to the next point and take a foresight reading. The elevation of the new point is found by combining the instrument height with the foresight reading, and repeating along a line yields relative elevations across multiple points. This technique is specifically for measuring vertical differences, not horizontal angles, areas, or magnetic north.*

## 3. See figure 30. If the elevation of the 60' road is 70.00' and the slope from the outlet to the edge of the road is 1:1, what is the horizontal dimension from the road centerline to the outlet elevation point?

A. 42.72

B. 35.00

C. 60.00

D. 50.00

*The key idea is that a 1:1 slope means the horizontal distance equals the vertical drop between two elevations. The road edge sits at elevation 70.00 ft, and the outlet point shown in the figure has an elevation of 57.28 ft, so the vertical drop from edge to outlet is 70.00 − 57.28 = 12.72 ft. With a 1:1 slope, the horizontal distance from the outlet to the edge is also 12.72 ft. The road is 60 ft wide, so the centerline is 30 ft from the edge. Adding the two horizontal segments gives 30 + 12.72 = 42.72 ft. Therefore, the horizontal distance from the road centerline to the outlet elevation point is 42.72 ft.*

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## 4. Which reading provides the elevation of the point ahead of the instrument in leveling?

A. Foresight reading

B. Backsight reading

C. Direct reading

D. Intermediary reading

*In leveling, the reading taken on the staff at the point ahead of the instrument is what gives its elevation. This foresight reading, used with the instrument's height, lets you determine the new elevation. Here's how it works: first you find the height of the instrument (HI) by taking a backsight on a point behind the instrument, which ties the instrument height to a known elevation. HI equals the elevation behind plus the backsight. Then you measure the staff at the point ahead and subtract that foresight reading from HI to get the elevation of the ahead point. For example, if the known point behind is 100.00 m and the backsight is 1.50 m, HI is 101.50 m. If the foresight reading at the ahead point is 0.78 m, the elevation of that point is 100.72 m. The other readings have different roles—backsight establishes the instrument height, intermediary readings are intermediate checks, and direct reading isn't used to determine the ahead point's elevation in standard leveling.*

## 5. What is a common method used to determine distances between points in field surveys?

A. Tape or EDM measurements

B. Only GPS

C. Visual estimation

D. Theodolite height measurement only

*Direct distance measurement is the common way to determine how far apart two points are in field surveys. This is done with a measuring tape for short, accessible spans, or with electronic distance measurement (EDM) instruments for longer or more demanding distances. A tape provides a physical, straightforward measurement, but requires careful setup—temperature, tension, and tape sag all affect accuracy. EDM devices, often integrated with total stations, measure distance electronically and can handle long lines quickly with high precision, and they can also provide slope distances when needed. GPS gives position coordinates rather than a direct line distance between two ground points, so it isn't the typical method for measuring the exact distance between two points on a site. Visual estimation is too imprecise for surveying standards, and using a theodolite height measurement alone does not yield the distance between points.*

## 6. In an office where clients and the public see you frequently, the most reasonable rule for dress would be:

A. Formal attire only

B. Casual wear is acceptable

C. Image and practicality

D. Safety gear at all times

*Because you are often seen by clients and the public, your appearance communicates professionalism and trust. The best rule is to dress in a way that balances a professional image with practicality for daily work tasks. That means clothes that look appropriate and polished, yet comfortable and safe for activities you perform. The other approaches are too rigid or too casual or add unnecessary safety gear; formal attire every day can be impractical; casual wear can undermine client perception; safety gear at all times isn't typically required in an office.*

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**7. To stake the Point of Tangency of a curve in the field you need to calculate the Long Chord of the Curve. What is the calculated length of the Long Chord, if the Radius of the Curve is 1200' and the delta is 20 degrees**

A. 416.76'

B. 2363.0'

C. 1200'

D. 2400'

*The long chord is the straight-line distance between the curve's end points (the PC and PT), which subtends the central angle Δ at the circle's center. For a circular curve, this chord length is L = 2R sin(Δ/2). With R = 1200' and Δ = 20°, Δ/2 = 10°, so L = 2 × 1200 × sin(10°) ≈ 2400 × 0.173648 ≈ 416.76 feet. This value is consistent with the given answer.*

**8. What is the line of collimation error, and how can it be minimized?**

A. An error caused by atmosphere only

B. A distance measurement error due to tape length

C. A misalignment between telescope sight line and the instrument's reference; minimize with proper calibration, checks, and centering.

D. A misreading of a horizontal angle due to a defective lens

*The line of collimation error is the misalignment between where the telescope is actually pointing (the line of sight) and the instrument's reference line or axis used for measurements. When the optical axis of the telescope isn't perfectly aligned with the instrument's reference, the sighted direction carries a systematic bias, so horizontal and vertical readings don't correspond to the true directions. Minimizing this error comes from careful setup and maintenance: calibrate the instrument so its optical axis and reference axis are truly collinear, perform checks to verify the alignment, and ensure everything is centered and secure. This includes verifying the collimation and centering the reticle with the target, tightening adjustment screws as needed, and repeating collimation checks with known targets to confirm the sight line matches the instrument's reference. Regular recalibration after transport or rough handling also helps keep this error to a minimum.*

**9. What is the decimal value of 17 Degrees 25?**

A. 17.50 Degrees

B. 17.42 Degrees

C. 17.4167 Degrees

D. 17.60 Degrees

*Converting degrees and minutes to decimal degrees is done by turning the minutes into a fraction of a degree, since there are 60 minutes in one degree. Here you have 17 degrees and 25 minutes. Compute 25/60 = 0.416666..., then add to the 17 degrees: 17 + 0.416666... = 17.416666.... Rounding to four decimal places gives 17.4167 degrees. That's why the decimal value is 17.4167. The other options would correspond to different minute values (for example, 30 minutes gives 0.50, about 25.2 minutes gives ~0.42, and 36 minutes gives 0.60).*

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**10. Which entity specifically develops standards and specifications for geodetic surveys?**

A. Federal Geodetic Control Subcommittee

B. National Geodetic Survey

C. American Society of Surveyors

D. United States Geological Survey

*Standards and specifications for geodetic surveys are set by a coordinated group that brings together federal agencies to agree on procedures, accuracy requirements, and data formats for geodetic control. The Federal Geodetic Control Subcommittee is that body, creating and publishing the guidelines used across federal projects to ensure consistency and interoperability of geodetic data and methods. The National Geodetic Survey is the agency that applies and implements these standards, maintaining the national geodetic network and producing data products. The United States Geological Survey and the American Society of Surveyors do not serve as the primary standards-developing body for geodetic surveys.*

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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://nspslvl2cst.examzify.com

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

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