

Civil Engineering Licensure Exam – Mock Exam (Day 8: Surveying Fundamentals)

February 24, 2025

Instructions

- Time Limit: 60 Minutes
- Coverage: Surveying Instruments, Fieldwork, and Data Collection
- Total Questions: 10 (Multiple Choice & Problem-Solving)
- Show complete solutions for problem-solving questions.

Section A: Multiple Choice Questions (MCQs)

Choose the best answer.

1. Which of the following is used for measuring horizontal and vertical angles in surveying?
 - (a) Dumpy Level
 - (b) Theodolite
 - (c) Total Station
 - (d) Plane Table
2. The main purpose of leveling in surveying is to:
 - (a) Measure distances between two points
 - (b) Determine elevation differences
 - (c) Measure horizontal angles

- (d) Locate points using GPS
3. Which type of surveying is used for large areas with Earth's curvature considered?
- (a) Plane Surveying
 - (b) Geodetic Surveying
 - (c) Topographic Surveying
 - (d) Cadastral Surveying
4. What is the standard length of a Gunter's chain?
- (a) 10 meters
 - (b) 20 meters
 - (c) 30 meters
 - (d) 66 feet
5. Which method of leveling is the most accurate?
- (a) Barometric Leveling
 - (b) Trigonometric Leveling
 - (c) Differential Leveling
 - (d) Hand Leveling

Section B: Problem-Solving

1. A line was measured using a 30-meter tape and found to be 150 meters. However, the tape was later found to be 30.05 meters long. Find the correct length of the line.
2. Compute the reduced level (RL) of a point if the benchmark (BM) has an RL of 100.00 m and the backsight (BS) and foresight (FS) readings are 2.35 m and 1.80 m, respectively.
3. The distance between two stations was measured as 500 m on a slope of 5° . Determine the horizontal distance.
4. A closed traverse ABCD has interior angles of 95° , 85° , 92° , and an unknown angle at D. Compute the missing angle.
5. A 20 m chain was found to be 0.05 m too long after a survey. If the measured distance was 500 m, determine the correct distance.