Solutions to Surveying Problems

Civil Engineering Licensure Exam – Mock Exam (Day 8)

February 25, 2025

Solutions

1. **Problem:** Calculate the horizontal distance between two points given the slope distance and vertical angle.

   Solution: FE Civil Exam Practice Problems — Surveying

2. **Problem:** Determine the corrected area of a traverse using the Bowditch method.

   Solution: SOLVE FOR THE CLOSED TRAVERSE SURVEYING (Real Life Site Example)

3. **Problem:** Compute the reduced level of a point using the rise and fall method.

   Solution: Rise Fall Method Solved Example Surveying Problem

4. **Problem:** Find the most probable value in a set of observations with different weights.

   Solution: Fastest Way To Solve Case 3 Most Probable Value Problems in Surveying

5. **Problem:** Measure horizontal and vertical angles using a theodolite.

   Solution: Measuring Horizontal and Vertical Angles (Theodolite Surveying Part-I)

6. **Problem:** Solve a leveling problem using the height of instrument method.

   Solution: FE Exam Prep — Surveying Problem - Leveling

7. **Problem:** Calculate the area of a land parcel using Simpson's rule.

   Solution: Top 10 Important Surveying Math Questions Solution

8. **Problem:** Determine the bearing of a line given the coordinates of its endpoints.

   Solution: FE Civil Exam Practice Problems — Surveying

9. **Problem:** Adjust a traverse using the transit rule.

   Solution: SOLVE FOR THE CLOSED TRAVERSE SURVEYING (Real Life Site Example)

10. **Problem:** Compute the volume of earthwork using the average end area method.

    Solution: Top 10 Important Surveying Math Questions Solution