

FE 308 Quiz 1

Show your work for calculations

Measurements and Measurement Errors

Name _____

1. Define precision using one sentence (1 point).
2. How many square feet are in a square mile? (1 point)
3. List the three types of errors that might occur when humans take measurements (3 points).
4. You measure a horizontal distance six (6) times between two points with the following results: 134.3', 135.1', 134.7', 134.3', 134.6', 134.5'.
 - a. What is the recorded distance?
 - b. What is the standard error of the distance?
 - c. Using one sentence, describe the true distance in terms of one standard error. (5 pts- show your calculations)

$$se = \frac{sd}{\sqrt{n}}$$

$$sd = \sqrt{\frac{\sum x^2 - \frac{(\sum x)^2}{n}}{n-1}}$$