01-01 Measurement Lab *Name: _____*

Objectives

- Use a ruler to measure in cm.

Time

- About 10 min

Materials

- Metric Ruler
- 3x5 Card

Background

The last digit on a measurement is always an estimate. When measuring using a ruler or meter stick, you can estimate between the smallest marks.

Analysis

1. What unit are the smallest marks on the metric side of the ruler/meter stick? _____

2. If you are measuring in cm, how many decimal places can you measure including the estimate between the smallest marks? _____

3. If the smallest marks on the ruler were cm, then what unit would you be estimating? _____

4. Measure the shortest side of a 3x5 card. _____ cm

5. Measure the longest side of a 3x5 card. _____cm

6. Measure a diagonal of a 3x5 card. _____ cm

7. Use the Pythagorean Theorem with the short and long sides to calculate the diagonal to the correct number of significant figures. _____ cm

8. Calculate the percent error using _____ %

$$\%error = \frac{experimental - theoretical}{theoretical} \cdot 100\%$$

The percent error should be less than 5%.