

name _____

ID# _____

Lab Partners _____

Experiment 1

The Metric System and Measuring Tools

D (cm)	C (cm)

Equation: _____

What is the slope according to the equation?

m = _____

What is the intercept according to the equation?

b = _____

Find the percent error of your slope using the equation:

$$\% \text{ error} = \frac{|\text{accepted value} - \text{experimental value}|}{|\text{accepted value}|} \times 100$$

% error = _____

Questions

1. Does your slope have units? Yes or no? _____
Remember slope equals rise over run. What are the units of the rise? _____
What are the units of the run? _____
What are the units of the rise over the units of the run? _____
In most cases the slope of a graph does have units.
2. What is the intercept according to the equation?
 $b =$ _____
3. Does the intercept have units? Yes or No? _____ If so, what unit? _____
4. Are these the results you were expecting? If not, why not
5. What would be the most sensible metric unit to use for the following? Consult your list of metric prefixes as you answer these questions.

_____ The distance from Atlanta to Chattanooga.

_____ The mass of a large bag of vegetables.

_____ The carbohydrates in a bag of potato chips.

_____ The amount of aspirin in a pill?

_____ The time it takes to run a 100 meter race?

_____ A bottle of milk?

6. If an experimenter is careless in her measuring and recording data, what type of error is she more likely to have? If you were careless, how might your results been different?

7. If an experimenter takes poor care of his measuring tools and lets them get out of calibration, but takes careful measurements, what type of error is he more likely to have? If this happened to you, how might your results have been different?

When you have finished, staple the answer sheets and graph together and hand them in. Be sure your whole name is printed legibly and that you have included your **student ID** number.

Grading:

6 pts. Data, graph, and analysis

2 pts For each complete correct question answer

Remember units and significant digits!