Unit 1: Measurement Progress Check

Precision and Accuracy:

1) A student measures the mass of a piece of copper three times and records the results in the following table. The actual mass of the copper is 29.7 grams. Is the student's data precise, accurate, neither, or both?

Explain your answer using complete sentences. Be sure to address both the precision *and* accuracy of her data in your explanation.

Trial	Mass (grams)
1	26.5
2	26.4
3	26.5

_____
_____
_____
_____
_____
_____

Percent Error:

2) Using the data in the "Precision and Accuracy" problem above, calculate the percent error. Show your work. Round your final answer to two decimal places.

Sig Figs:

Determine the number of significant figures.

3) 300.0 ____
4) 105.060 ____
5) 0.0034 ____
6) 4.50 x 10-4 ____
7) 200 ____
8) 1050 ____
9) 3400.0 ____
10) 190 ____
11) 2.30 ____
12) 104.0 ____

Calculate the following. Observe the rules for significant figures in your final answer.

13) 15.0 g + 1.230 g + 0.05 g =
14) What is the density of an object that has a mass of 201.0 g and a volume of 11.050 mL?

Scientific Notation Progress Check

Convert the following numbers into scientific notation:

15) 0.00013 _____

16) 0.00361_____

17) 392_____

18) 6,926,300_____

Take the following numbers out of scientific notation:

19) 1.92×10^{3}_____

20) 6.5×10^{-3} _____

21) 1.03×10^{-2}_____

22) 8.317×10^{6}_____