Name _____ Date _____ Class _____

CHAPTER 2 REVIEW

Measurements and Calculations

MIXED REVIEW

SHORT ANSWER **Answer the following questions in the space provided.**

1. Match the description on the right to the most appropriate quantity on the left.

_____	$2\ m^3$	**(a)** mass of a small paper clip
_____	0.5 g	**(b)** length of a small paper clip
_____	0.5 kg	**(c)** length of a stretch limousine
_____	$600\ cm^2$	**(d)** volume of a refrigerator compartment
_____	20 mm	**(e)** surface area of the cover of this workbook
		(f) mass of a jar of peanut butter

2. _____ A measured quantity is said to have good accuracy if

(a) it agrees closely with the accepted value.
(b) repeated measurements agree closely.
(c) it has a small number of significant figures.
(d) all digits in the value are significant.

3. A certain sample with a mass of 4.00 g is found to have a volume of 7.0 mL. To calculate the density of the sample, a student entered 4.00 ÷ 7.0 on a calculator. The calculator display shows the answer as 0.571429.

_____ **a.** Is the setup for calculating density correct?

_____ **b.** How many significant figures should the answer contain?

4. It was shown in the text that in a value such as 4000 g, the precision of the number is uncertain. The zeros may or may not be significant.

_____ **a.** Suppose that the mass was determined to be 4000 g. How many significant figures are present in this measurement?

_____ **b.** Suppose you are told that the mass lies somewhere between 3950 and 4050 g. Use scientific notation to report the value, showing an appropriate number of significant figures.

5. If you divide a sample's mass by its density, what are the resulting units?

Name _____ Date _____ Class _____

MIXED REVIEW continued

6. Three students were asked to determine the volume of a liquid by a method of their choosing. Each performed three trials. The table below shows the results. The actual volume of the liquid is 24.8 mL.

	Trial 1 (mL)	Trial 2 (mL)	Trial 3 (mL)
Student A	24.8	24.8	24.4
Student B	24.2	24.3	24.3
Student C	24.6	24.8	25.0

_____ **a.** Considering the average of all three trials, which student's measurements show the greatest accuracy?

_____ **b.** Which student's measurements show the greatest precision?

PROBLEMS **Write the answer on the line to the left. Show all your work in the space provided.**

7. _____ A single atom of platinum has a mass of 3.25×10^{-22} g. What is the mass of 6.0×10^{23} platinum atoms?

8. A sample thought to be pure lead occupies a volume of 15.0 mL and has a mass of 160.0 g.

_____ **a.** Determine its density.

_____ **b.** Is the sample pure lead? (Refer to **Table 4** on page 38 of the text.)

_____ **c.** Determine the percentage error, based on the accepted value for the density of lead.