

# Homework #2

Due: Tue Feb 2nd

Chem 192 – Spring 2010  
Cañada College

Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

Total Possible Points: 10

Suggested for Chapter 2 (pg 42-46): 4, 6, 10, 12, 14, 20, 22, 24, 30, 52, 54, 56, 78

1. (1 ½ points) How many significant figures are in each of the values below? (if it's a calculation, yes I mean the significant figures in the result of the calculation)

A. 35,010 \_\_\_\_\_ C.  $(2.5) \times (1.6)$  \_\_\_\_\_ E.  $60 \frac{\text{minutes}}{\text{hour}}$  \_\_\_\_\_

B. 0.02340 \_\_\_\_\_ D.  $(19 + 94)$  \_\_\_\_\_ F.  $60 \frac{\text{kilometers}}{\text{hour}}$  \_\_\_\_\_

2. (2 points) Write each value below in scientific notation (be sure to use the correct significant figures). Write the significant figures of the correct answer in the box provided.

Answer

Sig Figs

A. Multiply 2.4 by 3.77

\_\_\_\_\_

B. Divide  $3.296 \times 10^3$  by  $8.24 \times 10^1$

\_\_\_\_\_

C.  $\frac{(9.51 \times 10^{-4}) \cdot (8.236)}{7.822 \times 10^{-8}}$

\_\_\_\_\_

D.  $7.822 \times 10^3$  seconds  $\cdot \frac{1 \text{ hr}}{3600 \text{ seconds}} \cdot 78.5 \frac{\text{miles}}{\text{hr}} =$

\_\_\_\_\_

**3.** (1 ½ points) Express 1.075 meters in each of the following units (show your work; hint: exactly 1 inch measure 2.54 cm, this is not a definition):

A. Millimeters

B. Kilometers

C. Inches

**4.** (1 point) A piece of metal has a density of 1.2 g/mL and a volume of 6.87 mL. What is the mass of this sample?

**5.** (1 point) The density of liquid A is 2.14g/mL and the density of liquid B is 1.46g/mL. When equal masses of these liquids are compared, liquid A will have the greater volume.

True      or      False      (circle one)

**6.** (3 points) A student determines the density of a solid by weighing it and then immersing it in 50.0 mL of water in a graduated cylinder. The following data is obtained:

Weight	39.364g
Volume of water and solid	58.15 mL

(Reminder: Show your work and draw a box around your answer. Your answers should have units and be rounded to the proper number of significant figures.)

**A.** What is the volume of the solid?

**B.** What is the density of the solid?