

Problem Set #1 Worksheet – CHEM 210 – Fall 2009

Name: _____

Directions: Answer the assigned book problems and the problems on this worksheet. Express the answers to the correct number of significant figures. Show all work to receive credit.

Silberberg, 5th ed. End-of-Chapter Book Problems (REQUIRED): Chapter 3: 13b, 136cd (postponed to PS#2)

Worksheet Problems (REQUIRED):

- Carry out the following conversions by ***DIMENSIONAL ANALYSIS***. (*Use the back cover of the book and your notes for some conversion factors.*)
 - What is the mass (in grams) of 5.72×10^{24} atoms of silver?
 - How many moles of H_2O are in a bottle that holds 325 g of water?
 - What is the length in centimeters of a football field that is 100.0 yards?
 - What is speed of a train traveling 125 miles/hour in meters/second?
- Calculate the molar mass of calcium phosphate $\text{Ca}_3(\text{PO}_4)_2$? (*Show work.*)
This is the CORRECTED FORMULA for calcium phosphate.
- What is the mass (in grams) of a single atom of Manganese (Mn)?
- What mass of gasoline (in kg) are you putting in your car if fill up with 14 gallons ? ($D_{\text{gasoline}} = 0.671 \text{ g/mL}$)