## **Mass Appeal HW**

Read and outline (Cornell style) **Section 12.2** in your chemistry textbook. **\*\*Your section outline must be at least ½ page and have 3-4 topic questions.\*\*** Then answer the following assessment questions:

- 1. Why is a balanced chemical equation needed in solving stoichiometric calculations?
- 2. Consider the following reaction:

Cu (s) + AgNO<sub>3</sub> (aq) 
$$\rightarrow$$
 Cu(NO<sub>3</sub>)<sub>2</sub> (aq) + Ag (s)

- a. Balance the equation
- b. What is the mole ratio of Cu to Cu(NO<sub>3</sub>)<sub>2</sub>?
- c. What is the mole ratio of AgNO<sub>3</sub> to Cu(NO<sub>3</sub>)<sub>2</sub>?
- d. What is the mole ratio of AgNO<sub>3</sub> to Ag?
- e. How many moles of Cu, copper, are needed to react with 6 moles of silver nitrate, AgNO<sub>3</sub>?
- f. If 10 grams of Ag are produced, how many grams of AgNO<sub>3</sub> is used? Show your steps.
- 3. Consider the following equation:

$$C_4H_{10}(g) + O_2(g) \rightarrow CO_2(g) + H_2O(I)$$

- a. Balance the chemical equation.
- b. List the mole ratios of each reactant to each product. (There will be 4 ratios for your answer.)
- c. If 5 moles of ethane, C<sub>4</sub>H<sub>10</sub> are used, how many moles of water are produced?
- d. If 10 moles of oxygen,  $0_2$  are used, how many moles of carbon dioxide are produced?
- e. How many grams of  $CO_2$  will be produced if 42 grams of ethane,  $C_4H_{10}$  are used? Show your steps.