STOICHIOMETRY PART II

NAME _____ SECTION _____

1. Given an equation

$$2\ C_2H_6(g) + 7\ O_2(g) \xrightarrow{\Delta} 4\ CO_2(g) + 6\ H_2O(g)$$

How many mol of CO_2 will be formed by the complete combustion of 6.6 mol C_2H_6?

How many moles of C_2H_6, assuming excess oxygen, are required to form 3.7 mol H_2O?

2. Determine the amount of iodine produced when 145 g of KI react with excess copper(II) chloride.

$$2\ CuCl_2(s) + 4\ KI(s) \rightarrow 2\ CuI(s) + 4\ KCl(s) + I_2(s)$$

3. List the general steps required to solve any problem in which you are given the mass of each reactant and asked to calculate the mass of one or more products formed as the result of a complete reaction.

4. In the formation reaction

$$2\ SO_2(g) + O_2(g) \rightarrow 2\ SO_3(g)$$

Calculate the number of moles of SO_3 formed when:

a. 2.0 moles of SO_2 are reacted with 5.0 moles of O_2.

b. 6.0 moles of O_2 are reacted with 4.0 moles SO_2.

c. 9.0 moles of O_2 are reacted with 5.0 moles of SO_2.

d. 0.0812 moles of SO_2 react with 0.125 moles of O_2.

e. 20.0 g SO_2 react with 15.0 g of O_2.