WORKSHOP 6: Name: _____
Stoichiometry

Section _____

Review the Stoichiometry Path(s) presented in your textbook.

1. Ammonia gas will react with oxygen gas to yield nitrogen monoxide gas and water vapor.

   a. Write the balanced equation for this reaction.

   b. How many moles of ammonia will react with 23.13 g of oxygen?

   c. If 26.42 g of water is produced, how many g of oxygen gas reacted?

   d. If the reaction uses up 1.52×10^6 g of ammonia, how many grams of nitrogen monoxide will be formed?

2. Propane (C_3H_8) reacts with oxygen gas to produce carbon dioxide gas and liquid water.

   a. Write the balanced equation for this reaction.

   b. How many grams of water will be produced when 5.33×10^4 mg of propane reacts with excess oxygen?

   c. What mass of carbon dioxide would result from the reaction of 12.82 kg of oxygen with excess propane?

3. Solid iron(III) oxide reacts with carbon monoxide gas to produce solid iron and carbon dioxide gas.

    a. Write a balanced equation for the reaction.

    b. How many grams of carbon monoxide are required to react with 25.4 kg of iron(III) oxide?

    c. If you started with 50.00 g of iron(III) oxide, how many grams of solid iron would be formed?

    d. If you needed to produce 10.00 pounds of solid iron, how many grams of iron(III) oxide would you need to start with?

4. Sodium sulfate solution is mixed with a solution of barium chloride.

    a. Write the balanced equation for this double displacement reaction. (You need to predict the products.)

    b. How much solid barium sulfate will be produced from the reaction of 45.12 kg of sodium sulfate with 45.02 kg of barium chloride?