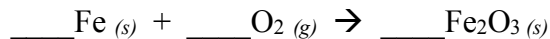**Percent Yield Practice #1**   Name: _____

Solve the following problems by showing your full work and including proper units to receive full credit.

1. In this combination reaction, 100. grams of the limiting reactant, iron, reacts with excess oxygen. Determine the percent yield if the actual mass of iron (III) oxide produced in the end is 130. grams.

$$\underline{\quad}Fe_{(s)} + \underline{\quad}O_{2\ (g)} \rightarrow \underline{\quad}Fe_2O_{3\ (s)}$$

2. In this S-R reaction where 200. grams of the limiting reactant, zinc metal, reacts with copper (II) sulfate, determine the percent yield of copper if 150. grams of copper are actually produced according to the following reaction.

$$\underline{\quad}Zn_{(s)} + \underline{\quad}CuSO_{4\ (aq)} \rightarrow \underline{\quad}Cu_{(s)} + \underline{\quad}ZnSO_{4\ (aq)}$$
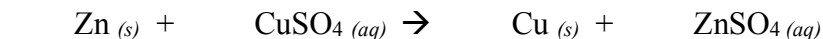
3. A student reacts 200. grams of the limiting reactant, $C_7H_6O_3$, with an excess of $C_4H_6O_3$ that produces $C_9H_8O_4$ and $C_2H_4O_2$. Calculate the percent yield if 231 grams of the physical product, aspirin ($C_9H_8O_4$), is actually produced.

$$\underline{\quad} C_7H_6O_3 + \underline{\quad} C_4H_6O_3 \rightarrow \underline{\quad} C_9H_8O_{4\ (s)} + \underline{\quad} C_2H_4O_2$$
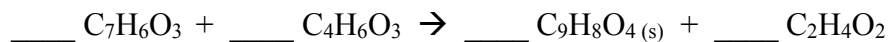
4. If I begin a reaction with 40.0 grams of magnesium and an excess of nitric acid, HNO$_3$, what is the percent yield of hydrogen gas if 1.70 grams of hydrogen gas was actually produced along with the product, magnesium nitrate? *(**HINT**: You need a balanced equation)*

5. 100. grams of copper (II) sulfide react with 56.0 grams of oxygen gas to produce copper (II) oxide and sulfur dioxide. Determine the percent yield if 74.3 grams of copper (II) oxide is actually produced. *(**HINT**: Write a balanced equation first, then determine LR & ER to calculate for the theoretical yield).*

6. If I perform a reaction with 25.0 grams of iron (III) phosphate and 15.0 grams of sodium sulfate, what is the ***percent yield* AND *percent error*** if 18.5 grams of iron (III) sulfate are actually produced in the lab? *(**HINT**: Write a balanced equation first, then determine LR & ER to calculate for the theoretical yield).*

Percent Yield: _____   *Percent Error:* _____