**Chemistry A Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Stoichiometry Review**

**Period\_\_\_\_\_\_\_**

**Short Answer**:

1. What is stoichiometry? What are the steps required to solve a stoichiometry problem?

2. How are percent yields determined? How is the actual yield of a reaction different from the theoretical yield?

1. What are five practical uses for stoichiometry?

**Problems: Solve the following problems. Show your answers and your work.**

 4. The following reaction takes place: Sodium reacts with water.

1. Calculate the number of moles of hydrogen that will be produced in 11.5 grams of sodium are reacted.

b. Calculate the number of grams of hydrogen that will be produced in this same reaction.

1. How many grams of iron will be needed to react completely with an excess of oxygen to form 40 grams of iron(III) oxide?

1. Iron reacts with sulfur when heated to produce iron(II) sulfide. When 72.5 grams of iron are reacted with

40.0 grams of sulfur:

1. Which reactant is in excess?
2. What mass of product will be formed?
3. What is the percent yield if 87.5 grams of iron (II) sulfide is actually produced?

7. Saphire, an MCHS chemistry genius, combines 50 grams of magnesium with excess HCl. Calculate the percent yield of magnesium chloride if her actual yield was 165 grams.

1. You step on the gas in your car to pass a slow moving truck (Ford). How many grams of oxygen are required to burn the 150.0 grams of octane, C8H18, you will require to make the pass?

9. How many grams of Na2CO3 are produced when 1.5 kg of NaHCO3 is decomposed?

10. Osama bin Laden has heart burn. His witch doctor determines that he has 60.0 g of HCl in his stomach, which is probably the culprit. He takes 25.0 g of an antacid, Mg(OH)2, how many grams of water will be produced?