Chemistry – Stoichiometry Worksheet

1. How many grams of calcium carbonate are required to prepare 50.0 g of calcium oxide? $CaCO_3 \rightarrow CaO + CO_2$

2. When 0.50 g of magnesium reacts with silver nitrate, how many grams of silver are prepared? $Mg + AgNO_3 \rightarrow$

3. If 75.0 g of copper react with mercuric nitrate, how many grams of mercury form? $Cu + Hg(NO_3)_2 \rightarrow Cu(NO_3)_2 + Hg$

4. When 60.0 g of aluminum react with hydrochloric acid, how many grams of hydrochloric acid react?

5. How many grams of magnesium chloride are produced by treating 4.00 g of titanium (III) chloride with magnesium?

6. What mass of Na_2SO_4 is produced when sulfuric acid reacts with 200.0 g of sodium chloride? $NaCl + H_2SO_4 \rightarrow HCl + Na_2SO_4$

7. In the electrolysis of 144 g of water, how many cubic decimeters of oxygen are prepared?

8. Calculate the number of cubic decimeters of oxygen required to react with 75 g of aluminum.

9. If 5.0 cubic decimeters of hydrogen are produced by the reaction of sodium and water, how many grams of sodium reacted?

10. How many grams of sulfur are required in the preparation of 800.0 cubic decimeters of sulfur dioxide? $S + O_2 \rightarrow SO_2$

Stoichiometry Worksheet III

1. Given the following equation: 2 C_4H_{10} + 13 O_2 ---> 8 CO_2 + 10 H_2O, show what the following molar ratios should be. a. C_4H_{10} / O_2 b. O_2 / CO_2 c. O_2 / H_2O

2. Given the following equation: 2 $KClO_3$ ---> 2 KCl + 3 O_2 , how many moles of O_2 can be produced by letting 12.00 moles of $KClO_3$ react?

3. Given the following equation: 2 K + Cl_2 ---> 2 KCl , how many grams of KCl is produced from 2.50 g of K and excess Cl_2. …from 1.00 g of Cl_2 and excess K?

4. Given the following equation: Na_2O + H_2O ---> 2 NaOH, how many grams of NaOH is produced from 1.20 x 10^2 grams of Na_2O? How many grams of Na_2O are required to produce 1.60 x 10^2 grams of NaOH?

5. Given the following equation: 8 Fe + S_8 ---> 8 FeS, what mass of iron is needed to react with 16.0 grams of sulfur? How many grams of FeS are produced?

6. Given the following equation: 2 $NaClO_3$ ---> 2 NaCl + 3 O_2, 12.00 moles of $NaClO_3$ will produce how many grams of O_2? How many grams of NaCl are produced when 80.0 grams of O_2 are produced?

7. Given the following equation: Cu + 2 $AgNO_3$ ---> $Cu(NO_3)_2$ + 2 Ag, how many moles of Cu are needed to react with 3.50 moles of $AgNO_3$? If 89.5 grams of Ag were produced, how many grams of Cu reacted?

8. Molten iron and carbon monoxide are produced in a blast furnace by the reaction of iron(III) oxide and coke (pure carbon). If 25.0 kilograms of pure Fe_2O_3 is used, how many kilograms of iron can be produced? The reaction is: Fe_2O_3 + 3 C ---> 2 Fe + 3 CO

9. The average human requires 120.0 grams of glucose ($C_6H_{12}O_6$) per day. How many grams of CO_2 (in the photosynthesis reaction) are required for this amount of glucose? The photosynthetic reaction is:

6 CO_2 + 6 H_2O ---> $C_6H_{12}O_6$ + 6 O_2