STOIC	HOM	ETRY:	
MASS	=MASS	PROB	LEWS

Name _____

1. $2KCIO_3 \rightarrow 2KCI + 3O_2$

How many grams of potassium chloride are produced if 25 g of potassium chlorate decompose?

 $2. N_2 + 3H_2 \rightarrow 2NH_3$

How many grams of hydrogen are necessary to react completely with 50.0 g of nitrogen in the above reaction?

3. How many grams of ammonia are produced in the reaction in Problem 2?

4. $2AgNO_3 + BaCl_2 \rightarrow 2AgCl + Ba(NO_3)_2$

How many grams of silver chloride are produced from 5.0 g of silver nitrate reacting with an excess of barium chloride?

5. How much barium chloride is necessary to react with the silver nitrate in Problem 4?

STOICHIOMETRY: VOLUME-VOLUME PROBLEMS

Name _____

$$N_2 + 3H_2 \rightarrow 2NH_3$$

What volume of hydrogen is necessary to react with five liters of nitrogen to produce ammonia? (Assume constant temperature and pressure.)

2. What volume of ammonia is produced in the reaction in Problem 1?

3.
$$C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4H_2O$$

If 20 liters of oxygen are consumed in the above reaction, how many liters of carbon dioxide are produced?

1. $2H_2O \rightarrow 2H_2 + O_2$

If 30 mL of hydrogen are produced in the above reaction, how many milliliters of oxygen are produced?

. 2CO + $O_2 \rightarrow 2CO_2$

How many liters of carbon dioxide are produced if 75 liters of carbon monoxide are burned in oxygen? How many liters of oxygen are necessary?

STOICHIOMETRY: MIXED PROBLEMS

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$$N_3 + 3H_2 \rightarrow 2NH_3$$

What volume of $\mathrm{NH_3}$ at STP is produced if 25.0 g of $\mathrm{N_2}$ is reacted with an excess of $\mathrm{H_2}?$

2.
$$2KCIO_3 \rightarrow 2KCI + 3O_2$$
If 5.0 g of $KCIO_3$ is decomposed, what volume of O_2 is produced at STP?

3. How many grams of KCI are produced in Problem 2?

$$Zn + 2HCI \rightarrow ZnCI_2 + H_2$$

What volume of hydrogen at STP is produced when 2.5 g of zinc react with an excess of hydrochloric acid?

5.
$$H_2SO_4 + 2NaOH \rightarrow H_2O + Na_2SO_4$$

How many molecules of water are produced if 2.0 g of sodium sulfate are produced in the above reaction?

6.
$$2AICI_3 \rightarrow 2AI + 3CI_2$$

If 10.0 g of aluminum chloride are decomposed, how many molecules of $\mathrm{Cl_2}$ are produced?