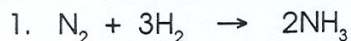


## STOICHIOMETRY: MOLE-MOLE PROBLEMS

Name \_\_\_\_\_



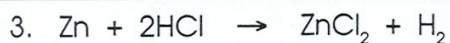
How many moles of hydrogen are needed to completely react with two moles of nitrogen?

\_\_\_\_\_



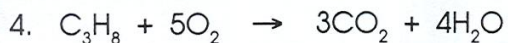
How many moles of oxygen are produced by the decomposition of six moles of potassium chlorate?

\_\_\_\_\_



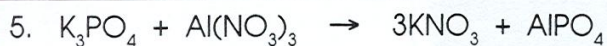
How many moles of hydrogen are produced from the reaction of three moles of zinc with an excess of hydrochloric acid?

\_\_\_\_\_



How many moles of oxygen are necessary to react completely with four moles of propane ( $\text{C}_3\text{H}_8$ )?

\_\_\_\_\_

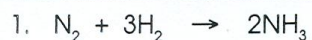


How many moles of potassium nitrate are produced when two moles of potassium phosphate react with two moles of aluminum nitrate?

\_\_\_\_\_

## STOICHIOMETRY: VOLUME-VOLUME PROBLEMS

Name \_\_\_\_\_

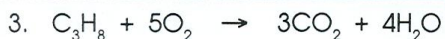


What volume of hydrogen is necessary to react with five liters of nitrogen to produce ammonia? (Assume constant temperature and pressure.)

\_\_\_\_\_

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

\_\_\_\_\_



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

\_\_\_\_\_



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

\_\_\_\_\_



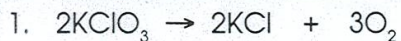
How many liters of carbon dioxide are produced if 75 liters of carbon monoxide are burned in oxygen? How many liters of oxygen are necessary?

\_\_\_\_\_

\_\_\_\_\_

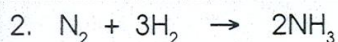
## STOICHIOMETRY: MASS-MASS PROBLEMS

Name \_\_\_\_\_



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

\_\_\_\_\_

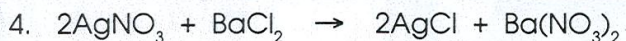


How many grams of hydrogen are necessary to react completely with 50.0 g of nitrogen in the above reaction?

\_\_\_\_\_

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

\_\_\_\_\_



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

\_\_\_\_\_

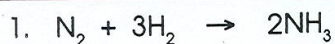
5. How much barium chloride is necessary to react with the silver nitrate in Problem 4?

\_\_\_\_\_



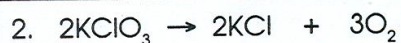
## STOICHIOMETRY: MIXED PROBLEMS

Name \_\_\_\_\_



What volume of  $\text{NH}_3$  at STP is produced if 25.0 g of  $\text{N}_2$  is reacted with an excess of  $\text{H}_2$ ?

\_\_\_\_\_



If 5.0 g of  $\text{KClO}_3$  is decomposed, what volume of  $\text{O}_2$  is produced at STP?

\_\_\_\_\_

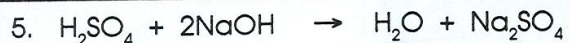
3. How many grams of  $\text{KCl}$  are produced in Problem 2?

\_\_\_\_\_



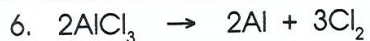
What volume of hydrogen at STP is produced when 2.5 g of zinc react with an excess of hydrochloric acid?

\_\_\_\_\_



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

\_\_\_\_\_

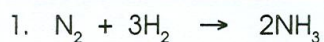


If 10.0 g of aluminum chloride are decomposed, how many molecules of  $\text{Cl}_2$  are produced?

\_\_\_\_\_

## STOICHIOMETRY: LIMITING REAGENT

Name \_\_\_\_\_

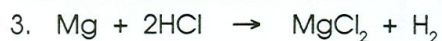


How many grams of  $\text{NH}_3$  can be produced from the reaction of 28 g of  $\text{N}_2$  and 25 g of  $\text{H}_2$ ?

\_\_\_\_\_

2. How much of the excess reagent in Problem 1 is left over?

\_\_\_\_\_

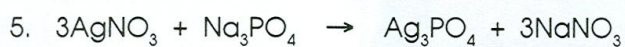


What volume of hydrogen at STP is produced from the reaction of 50.0 g of Mg and the equivalent of 75 g of HCl?

\_\_\_\_\_

4. How much of the excess reagent in Problem 3 is left over?

\_\_\_\_\_



Silver nitrate and sodium phosphate are reacted in equal amounts of 200. g each. How many grams of silver phosphate are produced?

\_\_\_\_\_

6. How much of the excess reagent in Problem 5 is left?

\_\_\_\_\_