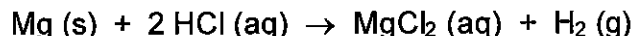


Name \_\_\_\_\_

Period \_\_\_\_\_

## STOICHIOMETRY WORKSHEET (MOLE-MOLE)

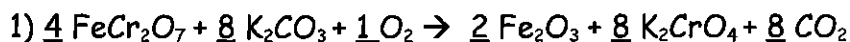
1. Magnesium reacts with hydrochloric acid according to the following balanced chemical equation:



If two moles of hydrochloric acid react with excess magnesium, how many moles of hydrogen gas will be produced?

2. Aluminum reacts with HCl to produce aluminum chloride and hydrogen gas. Write a balanced equation for the reaction and calculate the number of moles of HCl required to react with 0.87 moles of Al.
3. Glucose ( $\text{C}_6\text{H}_{12}\text{O}_6$ ) combines with  $\text{O}_2$  in the body to produce carbon dioxide and water. Write a balanced equation for this reaction. How many moles of  $\text{O}_2$  are required to combine with 0.25 moles of glucose? How many moles of  $\text{CO}_2$  and  $\text{H}_2\text{O}$  would be produced in this reaction?
4. Calcium carbonate combines with HCl to produce calcium chloride, water, and carbon dioxide gas. Write the balanced equation for this reaction. How many moles of HCl are required to react with 2.5 moles of calcium carbonate? How many moles of carbon dioxide would be produced?
5. Zinc reacts with sulfuric acid ( $\text{H}_2\text{SO}_4$ ) to yield zinc sulfate and hydrogen gas. How many moles of hydrogen will be produced if 0.36 moles of zinc react with an equal amount of  $\text{H}_2\text{SO}_4$ ?

## "Mole to Mole" Stoichiometry Problems



- (a) How many moles of  $\text{FeCr}_2\text{O}_7$  are required to produce 44 moles of  $\text{CO}_2$ ?
- (b) How many moles of  $\text{O}_2$  are required to produce 107.9 moles of  $\text{Fe}_2\text{O}_3$ ?
- (c) If 309 moles of  $\text{FeCr}_2\text{O}_7$  react, how many moles of  $\text{O}_2$  will be consumed?

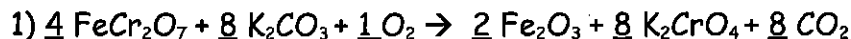


- (a) How many moles of sulfur must be burned to give 0.567 moles of  $\text{SO}_2$ ?
- (b) How many moles of  $\text{SO}_2$  can be produced from 67.1 moles of  $\text{O}_2$ ?



- (a) How many moles of aluminum are required to produce 4 moles of hydrogen?
- (b) How many moles of  $\text{Na}_3\text{AlO}_3$  can be formed from 7.24 moles of  $\text{NaOH}$ ?
- (c) How many moles of  $\text{NaOH}$  are required to produce 3.5 moles of hydrogen?
- (d) How many moles of hydrogen can be prepared from 6.9 moles of aluminum?

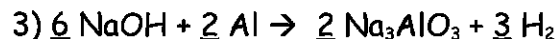
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