# Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period: \_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

# *Conversion Problem Set*

***Directions*:**

1. **Write the formula name of each reactant and product.**
2. **Balance each equation.**
3. ***Solve each of the following problems. Show your work, including proper units, to earn full credit.***

1. \_\_\_ CaCl2 + \_\_\_ AgNO3 🡪 \_\_\_ Ca(NO3)2 + \_\_\_ AgCl

Formula names:

Convert 45.9 grams of silver chloride to moles.

2. \_\_\_ CuO + \_\_\_ H2 🡪 \_\_\_ Cu + \_\_\_ H2O

Formula names:

How many moles of hydrogen are present if you have 34.01 grams of hydrogen?

3. \_\_\_ Na + \_\_\_ H2O 🡪 \_\_\_ NaOH + \_\_\_ H2

Formula names:

If 3.00 grams of hydrogen are produced in the above reaction, how many moles of hydrogen are produced?

4. \_\_\_ KClO3 🡪 \_\_\_ KCl + \_\_\_ O2

Formula names:

If 8.65 x 1025 molecules of potassium chloride are produced, what is the moles and mass of potassium chloride?

# Chemistry – Stoichiometry Worksheet

1. **Write the formula name of each reactant and product.**
2. **Balance each equation.**
3. ***Solve each of the following problems. Show your work, including proper units, to earn full credit.***
4. How many moles of calcium carbonate are required to prepare 50.0 g of calcium oxide?

CaCO3 🡪 CaO + CO2

1. When 0.50 g of magnesium reacts with silver nitrate, how many moles of silver are prepared?

Mg + AgNO3 🡪

1. If 75.0 moles of copper react with mercuric nitrate, how many grams of mercury form?

Cu + Hg(NO3)2 🡪 Cu(NO3)2 + Hg

1. When 60.0 moles of aluminum react with hydrochloric acid, how many grams of hydrochloric acid react?
2. How many grams of magnesium chloride are produced by treating 4.00 moles of titanium (III) chloride with magnesium?
3. What mass of Na2SO4 is produced when sulfuric acid reacts with 200.0 moles of sodium chloride?

NaCl + H2SO4 🡪 HCl + Na2SO4

1. Calculate the number of moles of oxygen required to react with 75 g of aluminum to produce aluminum oxide.
2. How many grams of oxygen are needed to react with sulfur to produce 5.00 moles of sulfur dioxide?
3. How many moles of chlorine gas are needed in the production of 2.03x1025 molecules of bromine gas from sodium bromide? (Hint: another product is NaCl)
4. How many moles of HCl are needed to form 3.5x103 moles of Cl2?

HCl + O2 🡪 H2O + Cl2

1. In the reaction of 84 g of copper (II) oxide with hydrogen gas, how many moles of hydrogen are required for the reaction to take place? CuO + H2 🡪 Cu + H2O