

Stoichiometry: Mass – Mole Worksheet

Solve the following stoichiometry problems and type in the correct answer with units.
(for example: 3.45 mol or 4.62 g) Round the masses from the periodic table to the nearest whole number. Round all answers to 2 decimal places.

1. Based on the following chemical equation, please answer the following questions



- a. Calculate the amount of moles of NaCl needed to produce 75 g of FeCl_3 .

Answer: _____ $\frac{75 \text{ g FeCl}_3}{1 \text{ mol FeCl}_3} \times \frac{1 \text{ mol NaCl}}{6 \text{ mol FeCl}_3} =$

- b. Calculate the amount of $\text{Fe}_2(\text{SO}_4)_3$ in grams produce 215 g Na_2SO_4 .

Answer: _____ $\frac{215 \text{ g Na}_2\text{SO}_4}{1 \text{ mol Na}_2\text{SO}_4} \times \frac{1 \text{ mol Fe}_2(\text{SO}_4)_3}{3 \text{ mol Na}_2\text{SO}_4} \times \frac{400 \text{ g Fe}_2(\text{SO}_4)_3}{1 \text{ mol Fe}_2(\text{SO}_4)_3} =$

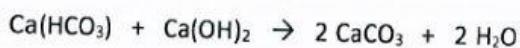
- c. Calculate the amount in grams of FeCl_3 produced with 95g of $\text{Fe}(\text{SO}_4)_3$.

Answer: _____ $\frac{95 \text{ g Fe}(\text{SO}_4)_3}{1 \text{ mol Fe}(\text{SO}_4)_3} \times \frac{2 \text{ mol FeCl}_3}{1 \text{ mol Fe}(\text{SO}_4)_3} \times \frac{162.5 \text{ g FeCl}_3}{1 \text{ mol FeCl}_3} =$

- d. Calculate the amount of moles of $\text{Fe}_2(\text{SO}_4)_3$ needed to react with 123.5 g of NaCl.

Answer: _____ $\frac{123.5 \text{ g NaCl}}{1 \text{ mol NaCl}} \times \frac{1 \text{ mol Fe}_2(\text{SO}_4)_3}{6 \text{ mol NaCl}} =$

2. How many moles of CaCO_3 can be produced if we make 12.3 g of $\text{Ca}(\text{HCO}_3)_2$ reacts with CaCO_3 ?



Answer: _____ $\frac{12.3 \text{ g Ca}(\text{HCO}_3)_2}{1 \text{ mol Ca}(\text{HCO}_3)_2} \times \frac{2 \text{ mol CaCO}_3}{1 \text{ mol Ca}(\text{HCO}_3)_2} =$