

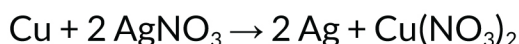
Name : _____ Date : _____

STOICHIOMETRY Worksheet

1. Write and balance the double replacement reaction between lead (II) nitrate and sodium chloride.

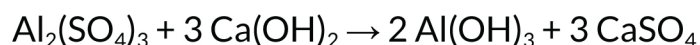
What is the mass of each product when 50 g of lead (II) nitrate react?

2. Consider the following reaction:



How many grams of silver are produced when 36.92 g of copper react?

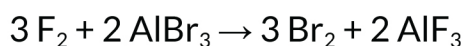
3. Balance the following reaction and answer the given questions.



a. What mass of aluminum (III) hydroxide are produced if 165.7 g of aluminum (III) sulfate react?

b. How many grams of calcium hydroxide are needed to form 6.35 g of calcium sulfate?

4. Balance the following equation and then answer the given questions:



a. If 8.4 g of aluminum bromide react, how many grams of bromine are produced?

b. If 90 g of aluminum fluoride are made, how many grams of fluorine have reacted?

STOICHIOMETRY Worksheet

Answers

1. Write and balance the double replacement reaction between lead (II) nitrate and sodium chloride.

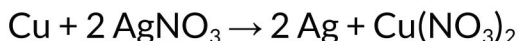


What is the mass of each product when 50 g of lead (II) nitrate react?

$$50 \text{ g Pb}(\text{NO}_3)_2 \times (1 \text{ mol Pb}(\text{NO}_3)_2 / 331.2 \text{ g Pb}(\text{NO}_3)_2) \times (2 \text{ mol NaNO}_3 / 1 \text{ mol Pb}(\text{NO}_3)_2) \times (85 \text{ g NaNO}_3 / 1 \text{ mol NaNO}_3) = 25.7 \text{ g NaNO}_3$$

$$50 \text{ g Pb}(\text{NO}_3)_2 \times (1 \text{ mol Pb}(\text{NO}_3)_2 / 331.2 \text{ g Pb}(\text{NO}_3)_2) \times (1 \text{ mol PbCl}_2 / 1 \text{ mol Pb}(\text{NO}_3)_2) \times (278.2 \text{ g PbCl}_2 / 1 \text{ mol PbCl}_2) = 42 \text{ g PbCl}_2$$

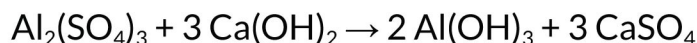
2. Consider the following reaction:



How many grams of silver are produced when 36.92 g of copper react?

$$36.92 \text{ g Cu} \times (1 \text{ mol Cu} / 63.5 \text{ g Cu}) \times (2 \text{ mol Ag} / 1 \text{ mol Cu}) \times (107.9 \text{ g Ag} / 1 \text{ mol Ag}) = 125 \text{ g Ag}$$

3. Balance the following reaction and answer the given questions.



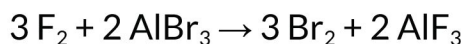
a. What mass of aluminum (III) hydroxide are produced if 165.7 g of aluminum (III) sulfate react?

$$165.7 \text{ g Al}_2(\text{SO}_4)_3 \times (1 \text{ mol Al}_2(\text{SO}_4)_3 / 342.3 \text{ g Al}_2(\text{SO}_4)_3) \times (2 \text{ mol Al}(\text{OH})_3 / 1 \text{ mol Al}_2(\text{SO}_4)_3) \times (78 \text{ g Al}(\text{OH})_3 / 1 \text{ mol Al}(\text{OH})_3) = 75.5 \text{ g Al}(\text{OH})_3$$

b. How many grams of calcium hydroxide are needed to form 6.35 g of calcium sulfate?

$$6.35 \text{ g CaSO}_4 \times (1 \text{ mol CaSO}_4 / 136.2 \text{ g CaSO}_4) \times (3 \text{ mol Ca}(\text{OH})_2 / 3 \text{ mol CaSO}_4) \times (74.1 \text{ g Ca}(\text{OH})_2 / 1 \text{ mol Ca}(\text{OH})_2) = 3.45 \text{ g Ca}(\text{OH})_2$$

4. Balance the following equation and then answer the given questions:



a. If 8.4 g of aluminum bromide react, how many grams of bromine are produced?

$$8.4 \text{ g AlBr}_3 \times (1 \text{ mol AlBr}_3 / 266.7 \text{ g AlBr}_3) \times (3 \text{ mol Br}_2 / 2 \text{ mol AlBr}_3) \times (159.8 \text{ g Br}_2 / 1 \text{ mol Br}_2) = 7.5 \text{ g Br}_2$$

b. If 90 g of aluminum fluoride are made, how many grams of fluorine have reacted?

$$90 \text{ g AlF}_3 \times (1 \text{ mol AlF}_3 / 84 \text{ g AlF}_3) \times (3 \text{ mol F}_2 / 2 \text{ mol AlF}_3) \times (38 \text{ g F}_2 / 1 \text{ mol F}_2) = 60 \text{ g F}_2$$