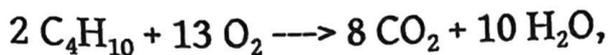


Mole-Mole Stoichiometry Worksheet

1. Given the following equation:



show what the following molar ratios should be.

- a. $\text{C}_4\text{H}_{10} / \text{O}_2$ 2:13
- b. O_2 / CO_2 13:8
- c. $\text{O}_2 / \text{H}_2\text{O}$ 13:10
- d. $\text{C}_4\text{H}_{10} / \text{CO}_2$ 2:8 or 1:4
- e. $\text{C}_4\text{H}_{10} / \text{H}_2\text{O}$ 2:10 or 1:5

2. Given the following equation: $2 \text{KClO}_3 \longrightarrow 2 \text{KCl} + 3 \text{O}_2$

How many moles of O_2 can be produced by letting 12.00 moles of KClO_3 react?

$$\frac{12.00 \text{ moles } \text{KClO}_3}{2 \text{ moles } \text{KClO}_3} \times \frac{3 \text{ moles } \text{O}_2}{2 \text{ moles } \text{KClO}_3} = \frac{36.00}{2} = 18.00 \text{ moles } \text{O}_2$$

How many moles of KCl can be produced by letting 4 moles of KClO_3 react?

$$\frac{4 \text{ moles } \text{KClO}_3}{2 \text{ moles } \text{KClO}_3} \times \frac{2 \text{ moles } \text{KCl}}{2 \text{ moles } \text{KClO}_3} = 4 \text{ moles } \text{KCl}$$

3. Given the following equation: $2 \text{K} + \text{Cl}_2 \longrightarrow 2 \text{KCl}$

How many moles of KCl are produced from 2.50 moles K ?

$$\frac{2.50 \text{ moles } \text{K}}{2 \text{ moles } \text{K}} \times \frac{2 \text{ moles } \text{KCl}}{2 \text{ moles } \text{K}} = 2.50 \text{ moles } \text{KCl}$$

4. Given the following equation: $\text{Na}_2\text{O} + \text{H}_2\text{O} \longrightarrow 2 \text{NaOH}$

How many moles of NaOH are produced from 1.20 moles of Na_2O ?

$$\frac{1.20 \text{ moles } \text{Na}_2\text{O}}{1 \text{ mole } \text{Na}_2\text{O}} \times \frac{2 \text{ moles } \text{NaOH}}{1 \text{ mole } \text{Na}_2\text{O}} = 2.40 \text{ moles } \text{NaOH}$$

5. Given the following equation: $8 \text{Fe} + \text{S}_8 \longrightarrow 8 \text{FeS}$

How many moles of iron are needed to react with 16.0 moles of sulfur?

$$\frac{16.0 \text{ moles } \text{S}}{8 \text{ moles } \text{S}} \times \frac{8 \text{ moles } \text{Fe}}{1 \text{ mole } \text{S}_8} = 16 \text{ moles } \text{Fe}$$

6. Given the following equation: $2 \text{NaClO}_3 \longrightarrow 2 \text{NaCl} + 3 \text{O}_2$

12.00 moles of NaClO_3 will produce how many moles of O_2 ?

$$\frac{12.00 \text{ moles } \text{NaClO}_3}{2 \text{ moles } \text{NaClO}_3} \times \frac{3 \text{ moles } \text{O}_2}{2 \text{ moles } \text{NaClO}_3} = \frac{36}{2} = 18 \text{ moles } \text{O}_2$$