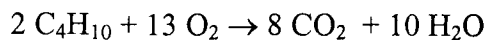
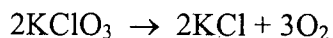


1. Given the following equation, show what the following molar ratios should be.



- $\text{C}_4\text{H}_{10}/\text{O}_2$
- $\text{O}_2/\text{CO}_2$
- $\text{O}_2/\text{H}_2\text{O}$
- $\text{C}_4\text{H}_{10}/\text{CO}_2$
- $\text{C}_4\text{H}_{10}/\text{H}_2\text{O}$

2. Given the following equation, how many moles of oxygen can be produced by reacting 12.0 moles of  $\text{KClO}_3$ ?



3. Given the following equation,  $2\text{K} + \text{Cl}_2 \rightarrow 2\text{KCl}$
- How many grams of  $\text{KCl}$  are produced from 2.50 g of  $\text{K}$ ?
  - How many grams of  $\text{KCl}$  are produced from 1.0 g of  $\text{Cl}_2$ ?

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

- How many grams of  $\text{NaOH}$  are produced from  $1.20 \times 10^2$  grams of  $\text{Na}_2\text{O}$ .
- How many grams of  $\text{Na}_2\text{O}$  are required to produce  $1.60 \times 10^2$  grams of  $\text{NaOH}$ ?

5. Given the following equation:  $8 \text{ Fe} + \text{S}_8 \rightarrow 8 \text{ FeS}$
- What mass of iron is needed to react with 16.0 g of Sulfur?
  - How many grams of FeS are produced from 16.0 g of Sulfur?
6. Given the following equation:  $2 \text{ NaClO}_3 \rightarrow 2 \text{ NaCl} + 3 \text{ O}_2$
- 12.0 moles of NaClO<sub>3</sub> are produced from how many grams of O<sub>2</sub>?
  - How many grams of NaCl are produced when 80.0 grams of O<sub>2</sub> are produced?
7. Given the following equation:  $\text{Cu} + 2\text{AgNO}_3 \rightarrow \text{Cu}(\text{NO}_3)_2 + 2 \text{ Ag}$
- How many moles of Cu are needed to react with 3.50 moles of AgNO<sub>3</sub>?
  - If 89.5 g of Ag were produced, how many grams of Cu reacted?
8. In the reaction  $\text{Fe}_2\text{O}_3 + 3 \text{ C} \rightarrow 2 \text{ Fe} + 3 \text{ CO}$
- If 25.0 kilograms of Fe<sub>2</sub>O<sub>3</sub> are used, how many kilograms of iron can be produced?

9. In the reaction  $6 \text{CO}_2 + 6 \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{O}_2$

- a. The average human requires 120.0 grams of glucose ( $\text{C}_6\text{H}_{12}\text{O}_6$ ) per day. How many grams of  $\text{CO}_2$  are required for this amount of glucose?

10. Given the reaction  $4 \text{NH}_3 + 5 \text{O}_2 \rightarrow 4 \text{NO} + 6 \text{H}_2\text{O}$

- a. When 1.20 mole of ammonia reacts the total number of moles of products formed is?

a. 1.20 mole    b. 1.50 mole    c. 3.00 mole    d. 12.0 mole