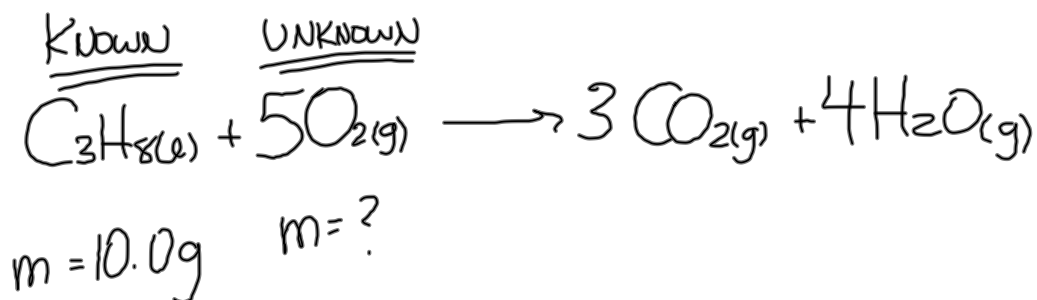


# Homework - Worksheet



Step 1: Moles Known

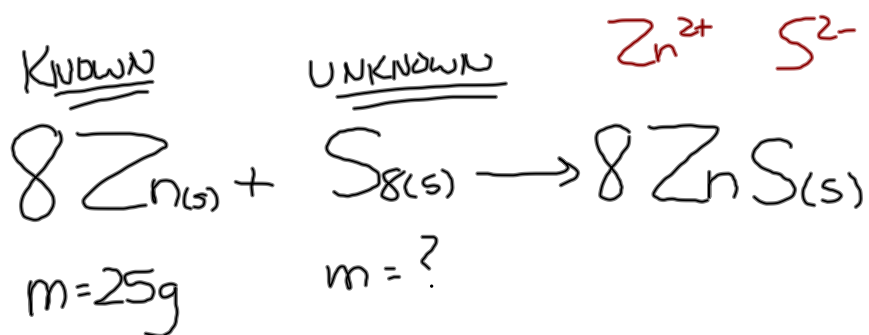
$$10.0\text{g C}_3\text{H}_8 \times \frac{1 \text{ mol C}_3\text{H}_8}{44.11 \text{ g C}_3\text{H}_8} = 0.2267 \text{ mol C}_3\text{H}_8$$

Step 2: Moles Unknown

$$0.2267 \text{ mol C}_3\text{H}_8 \times \frac{5 \text{ mol O}_2}{1 \text{ mol C}_3\text{H}_8} = 1.1335 \text{ mol O}_2$$

Step 3: Mass Unknown

$$1.1335 \text{ mol O}_2 \times \frac{32.00 \text{ g O}_2}{1 \text{ mol O}_2} = \boxed{36.3 \text{ g O}_2}$$



$$25g \cancel{Zn} \times \frac{1 \cancel{mol Zn}}{65.38g \cancel{Zn}} \times \frac{1 \cancel{mol S_8}}{8 \cancel{mol Zn}} \times \frac{256.48g S_8}{1 \cancel{mol S_8}} = \boxed{12g S_8}$$

## Worksheet #2 - Gravimetric Stoichiometry

1) 400.4 g  $\text{SO}_2$

4) 150 g  $\text{NaOH}$

2) 17 kg  $\text{C}$

5) 690 g  $\text{AuCl}_3$

3) 408 g  $\text{CO}$

6) 11 g  $\text{NH}_3$

# Solution Stoichiometry

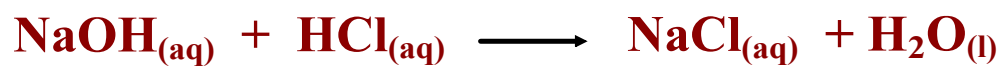
## SOLUTION STOICHIOMETRY

- the methods used to calculate the quantities of substances in solution.
- involves **molar concentrations and the volumes of solutions.**

Solutions of ammonia and phosphoric acid are used to produce ammonium hydrogen phosphate fertilizer. What volume of 14.8 mol/L  $\text{NH}_3(\text{aq})$  is needed for the ammonia to react completely with 10.0 L of 12.9 mol/L  $\text{H}_3\text{PO}_4(\text{aq})$  to produce fertilizer?



If 25.00 mL HCl acid with a concentration of 0.1234 M is neutralized by 23.45 mL of NaOH, what is the concentration of the base?



# Worksheet