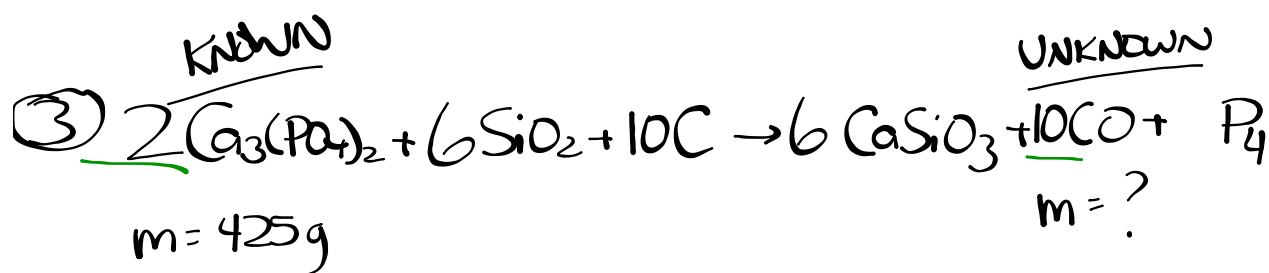


Homework - Worksheet



Step 1: Moles Known

$$425 \text{ g Ca}_3(\text{PO}_4)_2 \times \frac{1 \text{ mol Ca}_3(\text{PO}_4)_2}{310.18 \text{ g Ca}_3(\text{PO}_4)_2} = 1.370 \text{ mol Ca}_3(\text{PO}_4)_2$$

Step 2: Moles Unknown

$$1.370 \text{ mol Ca}_3(\text{PO}_4)_2 \times \frac{10 \text{ mol CO}}{2 \text{ mol Ca}_3(\text{PO}_4)_2} = 6.851 \text{ mol CO}$$

Step 3: Mass Unknown

$$6.851 \text{ mol CO} \times \frac{28.01 \text{ g CO}}{1 \text{ mol CO}} = \boxed{192 \text{ g CO}}$$

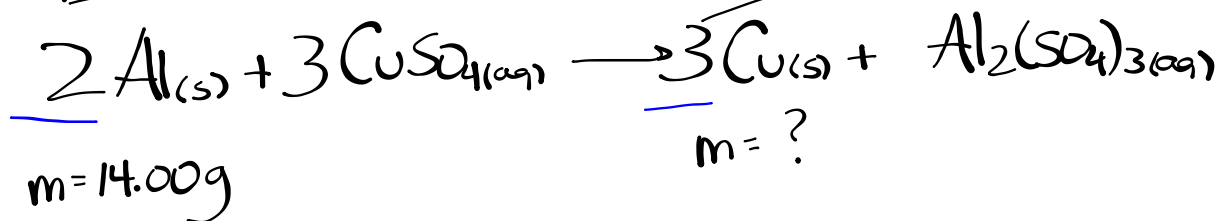
Try This



Find the mass of copper produced if 14.00 g of aluminum reacts with copper (II) sulfate.

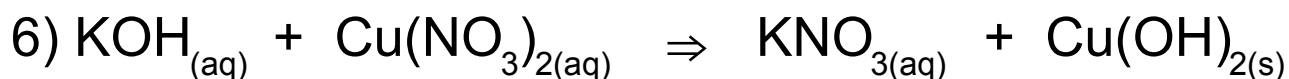
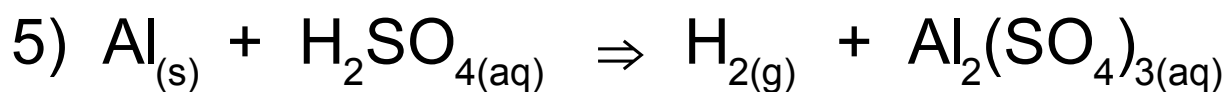
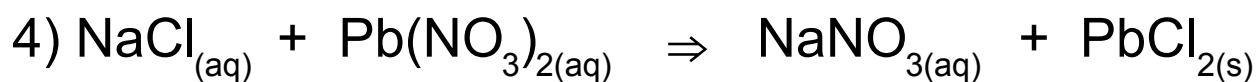
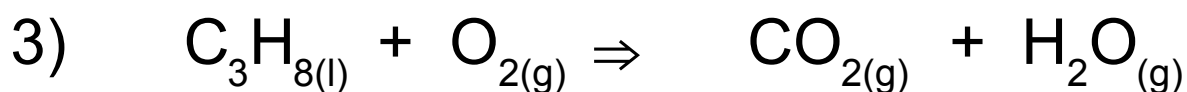
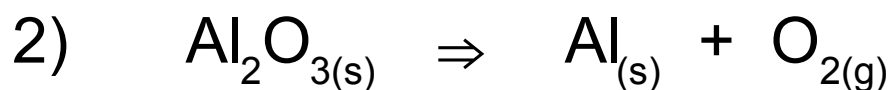
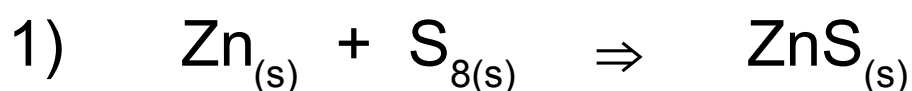
KNOWN

UNKNOWN



$$14.00 \text{ g Al} \times \frac{1 \text{ mol Al}}{26.98 \text{ g Al}} \times \frac{3 \text{ mol Cu}}{2 \text{ mol Al}} \times \frac{63.54 \text{ g Cu}}{1 \text{ mol Cu}} = \boxed{49.5 \text{ g Cu}}$$

Worksheet



120. mL of water is used to dilute 300.mL of a 0.450M solution. What is the solution's new concentration?

$$V_i = 300.\text{mL}$$

$$C_i = 0.450\text{M}$$

$$V_f = 420.\text{mL}$$

$$C_f = ?$$

$$V_i C_i = V_f C_f$$

$$(300.\text{mL})(0.450\text{M}) = (420.\text{mL}) C_f$$

$$C_f = \frac{(300.\text{mL})(0.450\text{M})}{(420.\text{mL})}$$

$$C_f = 0.321\text{M}$$

Calculate the concentration of a solution in which 45.0g of NaCl is dissolved in 1.80L of solution.

$$C = ?$$

$$m = 45.0\text{g}$$

NaCl

$$V = 1.80\text{L}$$

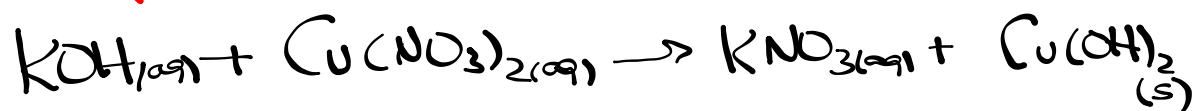
$$C = \frac{n}{V}$$

$$45.0\text{g NaCl} \times \frac{1\text{ mol NaCl}}{58.44\text{g NaCl}} = 0.770\text{ mol}$$

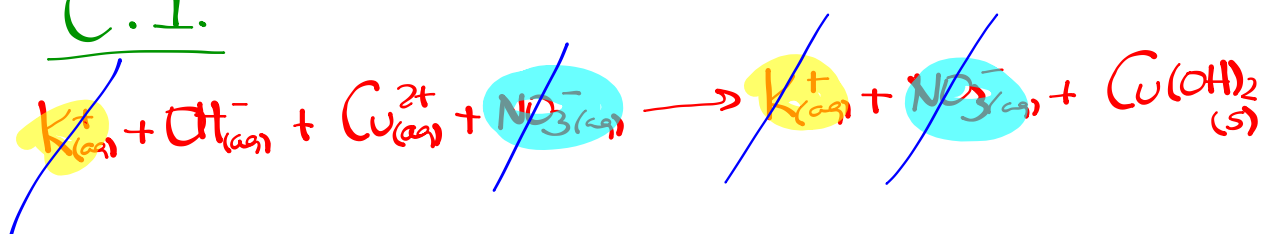
$$C = \frac{n}{V}$$

$$C = \frac{0.770\text{ mol}}{1.80\text{L}}$$

$$C = 0.428\text{ mol/L}$$



C.I.



Spectator



N.I.

