Homework - Worksheet

(3) KNOWN UNKNOWN

$CaCl_{2(aq)} + 2AgNO_{3(aq)} \rightarrow 2AgCl_{(s)} + Ca(NO_3)_{2(aq)}$

$V = 25.0\,mL$ $V = ?$

$C = 0.105\,M$ $C = 0.250\,M$

Step 1: Moles Known

$0.0250\,L\,CaCl_2 \times \frac{0.105\,mol\,CaCl_2}{1\,L\,CaCl_2} = 0.002625\,mol\,CaCl_2$

Step 2: Moles Unknown

$0.002625\,mol\,CaCl_2 \times \frac{2\,mol\,AgNO_3}{1\,mol\,CaCl_2} = 0.00525\,mol\,AgNO_3$

Step 3: Volume Unknown

$0.00525\,mol\,AgNO_3 \times \frac{1\,L\,AgNO_3}{0.250\,mol\,AgNO_3} = 0.0210\,L\,AgNO_3$

$\frac{0.00525\,mol\,AgNO_3}{0.250\,mol/L\,AgNO_3}$

UNKNOWN KNOWN

$2SO_{2(g)} + O_{2(g)} \rightarrow 2SO_{3(g)}$

$m = ?$ $m = 100.0\,g$

$$100.0\,g\,O_2 \times \frac{1\ mol\,O_2}{32.00\,g\,O_2} \times \frac{2\ mol\,SO_2}{1\ mol\,O_2} \times \frac{64.06\,g\,SO_2}{1\ mol\,SO_2}$$

$$= \boxed{400.4\,g\,SO_2}$$

Stoichiometry Review Worksheet

Quiz - Tuesday