Today: review

Thursday: office hours all day (except 11:15-12:30)
Problem club w/ Kendall

* Friday: CK 2 Doors open @ 9:15 *

Will a precipitate form? If so, write the rxn.

September 25th

① $AgNO_3(aq) + KI(aq) \longrightarrow KNO_3(aq) + AgI(s)$

Ag^+ NO_3^- K^+ I^-

② $AgNO_3(aq) + Na_2SO_4(aq) \longrightarrow$ none

Ag^+ NO_3^- Na^+ SO_4^{2-}

③ $2AgNO_3(aq) + K_2CO_3(aq) \longrightarrow 2KNO_3(aq) + Ag_2CO_3(s)$

Ag^+ NO_3^- K^+ CO_3^{2-}

pure substance → $m_A \xrightarrow{MM} n_A \xrightarrow{stoich} n_B \xrightarrow{MM} m_B$

solution → $M, V \xrightarrow{n=MV}$ either V or M

strong electrolytes (forms ions 100%)

* soluble ionic salt
* strong acid
  - Big 6 strong acids: HCl, HBr, HI, HNO_3, $HClO_4$, H_2SO_4
    - hydrochloric acid
    - hydrobromic acid
    - hydroiodic acid

$HCl(aq) + H_2O \xrightarrow{100\%} H_3O^+_{(aq)} + Cl^-_{(aq)}$

non-electrolytes (no ions formed)

* covalent molecular
* insoluble ionics

$M = \frac{n}{V}$ ← moles; ← volume of soln in L

molarity mol/L

$n = MV$

$LiS(aq) + 2AgNO_3(aq) \rightarrow 2LiNO_3(aq) + Ag_2S(s)$

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

25.00 mL of 0.315 mol/L

$n = MV$

↳ $n = 0.315\ mol/L \cdot 0.025\ L$

↳ $n = 0.007875\ mol$

$n_{Li_2S} = \frac{0.007875\ mol}{2\ mol\ AgNO_3} \frac{1\ mol\ Li_2S}{} = 0.003938\ mol\ Li_2S(aq)$

$V_{Li_2S} = \frac{n}{M} \rightarrow \frac{0.003938\ mol\ Li_2S}{0.300\ mol/L}$

↳ $0.01313\ L \rightarrow n = MV$ → 13.13 mL

GO MOLES!

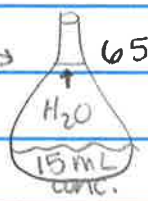
#8 on ch.4 day 1: September 25th

Ex 20.0 g NaOH dissolved in water to make 150 mL sol'n.

$$M = \frac{n_{NaOH}}{V_{soln}} = \frac{20.0\ g\ NaOH \left| \frac{mol\ NaOH}{40.00\ g} \right.}{0.150\ L} =$$

MM

$M_{conc} = 3.33\ mol/L$



$M_c V_c = M_d V_d$

3.33 mol/L, 15 mL, ?, 50 mL