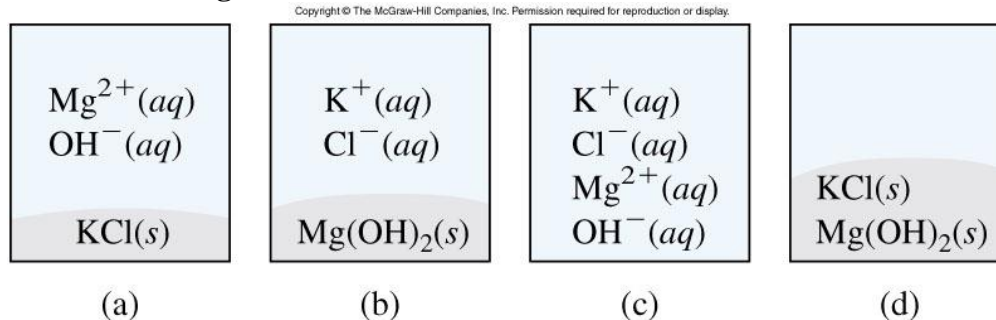**Chem 2 AP Homework #4-2:** Molarity and Precipitation Reactions
Problems pg. 152 #16, 18, 22, 24, 60, 62, 64(a), 69, 72, 74

4.16 **What is the advantage of writing net ionic equations?**

4.18 **Two aqueous solutions of KOH and MgCl₂ are mixed. Which of the following diagrams best represents the resulting mixture?**
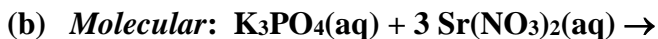
$Mg^{2+}(aq)$ $OH^-(aq)$ $KCl(s)$	$K^+(aq)$ $Cl^-(aq)$ $Mg(OH)_2(s)$	$K^+(aq)$ $Cl^-(aq)$ $Mg^{2+}(aq)$ $OH^-(aq)$	$KCl(s)$ $Mg(OH)_2(s)$
(a)	(b)	(c)	(d)

4.22 **Complete the molecular equations for the following reactions. Also, write the total ionic and net ionic equations for each.**
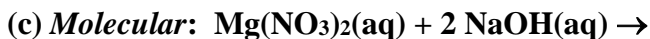
(a) *Molecular*: $Na_2S(aq) + ZnCl_2(aq) \rightarrow$

   Ionic:

   Net ionic:

(b) *Molecular*: $K_3PO_4(aq) + 3\ Sr(NO_3)_2(aq) \rightarrow$

   Ionic:

   Net ionic:

(c) *Molecular*: $Mg(NO_3)_2(aq) + 2\ NaOH(aq) \rightarrow$

   Ionic:

   Net ionic:

4.24 **By using Table 4.2 (or solubility rules), suggest one method by which you might separate:**

(a) K^+ from Ag^+:

(b) Ba^{2+} from Pb^{2+}:

(c) NH_4^+ from Ca^{2+}:

(d) Ba^{2+} from Cu^{2+}:

4.60   **Describe how you would prepare 250. mL of a 0.707 M NaNO$_3$ solution from solid NaNO$_3$.**
      (In addition to calculation, include a sentence for how to do it and what glassware to use,)

 4.64   **Calculate the molarity of a solution consisting of 6.57 g of CH$_3$OH in 150. mL of solution.**

4.69 (mod) **Describe how to prepare 500.0 mL of 0.646 M HNO$_3$ solution, starting with a 16.0 M HNO$_3$**
      solution. *(Remember-- for concentrated acids, "Do what you oughter, add acid to water!")*

4.72   **You have 505 mL of a 0.125 M HCl solution and you want to dilute it to exactly 0.100 M. How**
      much water should you add?

4.74   **A 46.2-mL of a 0.568 M calcium nitrate [Ca(NO$_3$)$_2$] solution is mixed with 80.5 mL of 1.396 M**
      calcium nitrate solution. Calculate the concentration of the final solution.