Mr. Bracken
AP Chemistry

Name _____
Period _____

Molarity Madness #1

1. What is the molarity of a solution if 21 grams of $NaHCO_3$ is dissolved into 0.50 Liter of water?

[$NaHCO_3$] _____

2. What is the molarity of a solution if 53 grams of Na_2CO_3 is dissolved into 0.250 Liter of water?

[Na_2CO_3] _____

[Na^{1+}] _____

[CO_3^{2-}] _____

3. What is the final molarity if 320 mL of 0.50 M HCl is diluted to a final volume of 480 mL?

[HCl] _____

4. What is the final concentration of K^{1+} ions if the following are mixed?

[K^{1+}] _____

120 mL of 0.10 M K_2SO_4

250 mL of 0.20 M KOH

180 mL of 0.10 M K_3PO_4

450 mL of 0.10 M KNO_3

5. A 250 mL sample of 0.10 M Li_2SO_4 solution is added to 200 mL of 0.20 M $Ba(NO_3)_2$ solution. What are the concentrations of the ions remaining dissolved in solution?

$[Li^{1+}]$ _____

$[SO_4^{2-}]$ _____

$[Ba^{2+}]$ _____

$[NO_3^{1-}]$ _____

6. If 0.30 moles of solid $MgCl_2$ is mixed with 500 mL of water containing 0.40 moles of solid Na_2SO_4, what are the final concentrations of the ions?

$[Mg^{2+}]$ _____

$[Cl^{1-}]$ _____

$[Na^{1+}]$ _____

$[SO_4^{2-}]$ _____

7. A 300. mL sample of 0.15 M $AgNO_3$ solution is added to 200. mL of 0.10 M $CaCl_2$ solution. What are the final concentrations of the ions that remain dissolved in solution?

$[Ag^{1+}]$ _____

$[NO_3^{1-}]$ _____

$[Ca^{2+}]$ _____

$[Cl^{1-}]$ _____