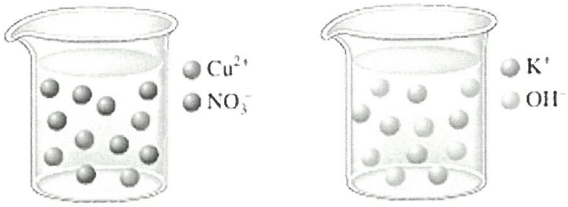
Unit 4 – Chapter 4: Types of Reactions **Name** _____

Practice problems: Illustrating Precipitate Reactions **Period** _____

1. The drawings below represent aqueous solutions. Solution A is 2.00 L of a 2.00 *M* aqueous solution of copper (II) nitrate. Solution B is 2.00 L of a 3.00 *M* aqueous solution of potassium hydroxide.



A B

   a. Draw a picture of the solution made by mixing solutions A and B together after the precipitation reaction takes place. Make sure this picture shows the correct relative volume compared to solutions A and B, and the correct relative number of ions, along with the correct relative amount of solid formed.
   b. Determine the concentrations (in *M*) of all ions left in solution (from part a) and the mass of solid formed.

2. You are given a 1.50-g mixture of sodium nitrate and sodium chloride. You dissolve this mixture into 100 mL of water and then add an excess of 0.500 *M* silver nitrate solution. You produce a white solid, which you then collect, dry, and measure. The white solid has a mass of 0.641 g.
   a. If you had an extremely magnified view of the solution (to the atomic-molecular level), list the species you would see (include charges, if any).
   b. Write the balanced net ionic equation for the reaction that produces the solid. Include phases and charges.
   c. Calculate the percent sodium chloride in the original unknown mixture.