Net Ionic Equations Name/Per: _____

1. Explain why the term spectator ion is used.

2. What chemicals are present in a net ionic equation?

3. Identify the spectator ion(s) in the following reaction: $MgSO_4\,(aq) + 2\,AgNO_3\,(aq) \rightarrow Ag_2SO_4\,(s) + Mg(NO_3)_2\,(aq)$

4. Balance the following molecular equations. Then write the complete and net ionic equation for each (show all steps):
   a. $Br_2\,(l) +$ $NaI\,(aq) \rightarrow$ $NaBr\,(aq) +$ $I_2\,(s)$

   b. $Ca\,(OH)_2\,(aq) +$ $HCl\,(aq) \rightarrow$ $CaCl_2\,(aq) +$ $H_2O\,(l)$

   c. $Mg\,(s) +$ $AgNO_3\,(aq) \rightarrow$ $Ag\,(s) +$ $Mg(NO_3)_2\,(aq)$

   d. $AgNO_3\,(aq) +$ $KCl\,(aq) \rightarrow$ $AgCl\,(s) +$ $KNO_3\,(aq)$

5. What is the precipitate formed when solutions of strontium nitrate and rubidium sulfate are combined? _____

6. What is the precipitate formed when solutions of sodium hydroxide and magnesium chloride are combined? _____

7. Are the following compounds soluble or insoluble?
   a. Calcium carbonate _____
   b. $PbSO_4$ _____
   c. Na_2S _____
   d. K_2CO_3 _____

8. Predict the products for each of the following reactions. Write the molecular, complete, and net ionic equations for each.
   a. $AgNO_3\,(aq) + CaCl_2\,(aq) \rightarrow$

   b. Silver nitrate + sodium sulfate $\rightarrow$

   c. $Na_2CO_3\,(aq) + MgCl_2\,(aq) \rightarrow$

   d. Potassium sulfate + Barium nitrate $\rightarrow$