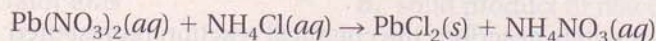


7. Classify each of the reactions in problems 1–6 as to type.
8. Use the activity series of metals (Table 11.2) and your knowledge of the relative reactivity of the halogens to predict whether the following reactions will occur. Write balanced equations for those reactions that do occur.
  - a.  $\text{Br}_2(l) + \text{NaCl}(aq) \rightarrow$
  - b.  $\text{Ca}(s) + \text{Mg}(\text{NO}_3)_2(aq) \rightarrow$
  - c.  $\text{K}(s) + \text{H}_2\text{SO}_4(aq) \rightarrow$
  - d.  $\text{Zn}(s) + \text{NaOH}(aq) \rightarrow$

## SECTION 11.3 REACTIONS IN AQUEOUS SOLUTION

1. Write the net ionic equation for the reaction between aqueous barium nitrate,  $\text{Ba}(\text{NO}_3)_2$ , and sodium sulfate,  $\text{Na}_2\text{SO}_4$ .
2. Magnesium reacts with HCl to form hydrogen and magnesium chloride. Write the balanced net ionic equation for this reaction.
3. The double-replacement reaction below results in the formation of the precipitate lead chloride. Balance the equation and write the net ionic equation.



4. Identify the precipitate formed when solutions of the following ionic compounds are mixed. If no precipitate is formed, write *no precipitate*.
  - a.  $\text{Zn}(\text{NO}_3)_2 + \text{SnCl}_2 \rightarrow$
  - b.  $\text{KCl} + \text{AgNO}_3 \rightarrow$
  - c.  $\text{Cu}(\text{NO}_3)_2 + \text{Na}_2\text{S} \rightarrow$
  - d.  $\text{Al}_2(\text{SO}_4)_3 + 3\text{Mg}(\text{OH})_2 \rightarrow$