

**More Chapter 4 Study Questions**

1. When iron(III) chloride and sodium hydroxide are mixed a precipitate forms.
  - a) Write a balanced formula equation for this reaction.
  - b) What volume of 0.200 M iron(III) chloride is needed to completely precipitate the product when mixed with 30.0 mL of 0.500 M sodium hydroxide?
  - c) What mass of precipitate is formed?
2. What mass of precipitate is formed when 25.0 mL of 0.200 M silver nitrate are mixed with 10.0 mL of 0.150 M aluminum chloride?
3. What volume of 0.0500 M  $\text{Ba}(\text{OH})_2$  is needed to neutralize 25.0 mL of 0.300 M  $\text{HNO}_3$ ?
4. How many grams of KCl are needed to make 50.0 mL of a 2.00 M KCl solution?
5. What volume of 6.00 M HCl is needed to prepare 30.0 mL of a 0.500 M HCl solution?
6. What mass of precipitate is formed when 40.0 mL of 0.250 M barium nitrate are mixed with excess potassium sulfite?