Chemistry 11

Titrations

Name:
Date:

1. Balance the following neutralization equation:

$$\_\_\_\ H_2SO_4 + \_\_\_\ NaOH \rightarrow \_\_\_\ H_2O + \_\_\_\ Na_2SO_4$$

2. Write the balanced equation for the reaction between aluminum hydroxide and hydrobromic acid, HBr, to form aluminum bromide and water.

3. Complete and balance the following equation:

$$\_\_\_\ NH_4OH + \_\_\_\ H_2SO_4 \rightarrow \_\_\_\_\_ + \_\_\_\_\_$$

4. If 14.7 mL of 0.102 M NaOH is required to titrate 25.00 mL of a hydrochloric acid, HCl, solution, what is the molarity of the hydrochloric acid?

5. If 36.2 mL of 0.152 M NaOH is required to neutralize 25.00 mL of an acetic acid, CH_3COOH, solution, what is the molarity of the acetic acid?

6. If 7.3 mL of 1.25 HNO_3 is required to neutralize 25.00 mL of a potassium hydroxide solution, what is the molarity of the potassium hydroxide?

7. If 8.6 mL of 0.0994 M HNO_3 is required to neutralize 25.00 mL of a strontium hydroxide solution, what is the molarity of the strontium hydroxide?

8. If 46.2 mL of 2.50 M NaOH is required to neutralize 1.54 M phosphoric acid, H_3PO_4, solution, what volume of phosphoric acid was needed to reach the equivalence point?

1. $H_2SO_4 + 2NaOH \rightarrow 2H_2O + Na_2SO_4$ 2. $Al(OH)_3 + 3HBr \rightarrow AlBr_3 + 3H_2O$ 3. $NH_4OH + H_2SO_4 \rightarrow (NH_4)_2SO_4 + 2H_2O$. 4. 0.0600M HCl
5. 0.220M CH_3COOH 6. 0.37M KOH 7. 0.017M $Sr(OH)_2$ 8. 25.0mL H_3PO_4