Preliminary

## Titration and Neutralization

Name: \_\_\_\_\_

1) Complete and balance the following neutralization reactions.

- a) \_\_\_\_ HCl + \_\_\_ KOH ----->
- b) \_\_\_\_ Sr(OH)<sub>2</sub> + \_\_\_\_ HClO<sub>4</sub> ----->
- c) \_\_\_\_ HI + \_\_\_ CsOH ----->
- d) \_\_\_\_ Fe(OH)<sub>3</sub> + \_\_\_\_ H<sub>2</sub>CO<sub>3</sub> ----->

2) In a titration reaction, 43.0 mL of NaOH solution was required to neutralize 32.0 mL of 0.100 M HCl solution. What is the molarity of the NaOH solution?

3) The concentration of an acetic acid ( $HC_2H_3O_2$ ) solution is determined by titrating 25.0 mL of the solution with KOH. If 42.5 mL of 0.075 M KOH is required to reach the equivalence point, what is the molarity of the acetic acid?

4) It requires 50.0 mL of 0.150 M NaOH solution to neutralize a 0.345 M HF solution. What volume of the hydrofluoric acid was neutralized?

5) In a titration, a 0.450 M solution of acetic acid is used to neutralize 34.0 mL of 0.125 M copper (I) hydroxide solution (CuOH). What is the volume of the acetic acid will need to be used?

7) Write formulas for the following acids and bases:

a) hydroselenic acid	e) strontium hydroxide
b) sulfous acid	f) periodic acid
c) chromium (III) hydroxide	g) cyanic acid
d) bromic acid	h) hydroarsenic acid

Answers: 1) 0.0744 M 3) 21.7 mL