## Titration and Neutralization

Name: $\qquad$

1) Complete and balance the following neutralization reactions.
a) $\qquad$ $\mathrm{HCl}+$ $\qquad$ KOH $\qquad$
b) $\qquad$ $\mathrm{Sr}(\mathrm{OH})_{2}+$ $\qquad$ $\mathrm{HClO}_{4}$------->
c) $\qquad$ HI + $\qquad$ CsOH ------->
d) $\qquad$ $\mathrm{Fe}(\mathrm{OH})_{3}+$ $\qquad$ $\mathrm{H}_{2} \mathrm{CO}_{3}$ $\qquad$
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 $\left(\mathrm{HC}_{2} \mathrm{H}_{3} \mathrm{O}_{2}\right)$ 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 $(\mathrm{CuOH})$. What is the volume of the acetic acid will need to be used?
6) Write formulas for the following acids and bases:
a) hydroselenic acid $\qquad$ e) strontium hydroxide
b) sulfous acid $\qquad$ f) periodic acid
c) chromium (III) hydroxide $\qquad$ g) cyanic acid
d) bromic acid $\qquad$ h) hydroarsenic acid
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