Unit 9 – Chapter 15: Acid-Base Equilibrium & Buffers **Name _____**

Assignment #8: Chapter Review Assignment **Period _____**

1) A buffer solution contains 0.12 moles of propionic acid ($HC_3H_5O_2$) and 0.10 moles of sodium propionate ($NaC_3H_5O_2$) in 1.50 liters.
    a. What is the pH of the buffer?
    b. What is the pH of the buffer after the addition of 0.01 moles of NaOH?
    c. What is the pH of the buffer after the addition of 0.01 moles of HI?

2) A 35.0-mL sample of 0.150 *M* acetic acid is titrated with 0.150 *M* NaOH. Calculate the pH after the following volumes of base have been added:
    a. 17.5 mL
    b. 35.0 mL
    c. 35.5 mL
    d. 50.0 mL

3) Calculate the solubility of the following in moles/liter:
    a. AgI $K_{sp} = 1.5 \times 10^{-16}$

    b. $Co(OH)_2$ $K_{sp} = 2.5 \times 10^{-16}$

4) Will a precipitate form when 0.200 liters of 0.0060 *M* $Sr(NO_3)_2$ is mixed with 0.800 liters of 0.040 *M* K_2CrO_4?

5) Calculate the solubility of the following salts:

   a. Ag_2CrO_4 $K_{sp} = 9.0 \times 10^{-12}$

   b. Ag_2CrO_4 in 0.100 *M* $AgNO_3$