

MORE EQUILIBRIUM PROBLEMS

(from old quizzes)

- A. Consider aqueous solutions of the salts below and do the following:
- ❖ Write the NET IONIC equations for all reactions that occur.
 - ❖ Write the equilibrium constant expression for each reaction.
 - ❖ Give the value (number) of each equilibrium constant.
 - ❖ Tell whether the solution will be acidic, basic, or neutral.
1. $\text{C}_6\text{H}_5\text{NH}_3\text{Br}$
 2. KOCN
 3. LiH_2PO_4
 4. NH_4HSO_4
- B. When solving the following problems, write net ionic equations for all reactions that occur, define all variables used, and state all assumptions made. Look up K_a 's and K_b 's for weak acids and bases.
1. How many moles of sodium hydroxide must be added to 150 mL of 0.200 M aqueous acetic acid to give a solution of pH 4.27?
 2. How many grams of ammonium chloride must be added to 300 mL of 0.100 M aqueous ammonia to give a solution of pH 9.08? (molar mass ammonium chloride = 50.47 g/mole)
 3. What is the pH of a solution prepared by mixing 10.0 mL of 0.100 M HCl and 50.0 mL of 0.200 M hydrazine, N_2H_4 ?