

Chemistry: Acid/Bases Assignment 3

Name:

Be sure to show all your work

1. If a solution has a $[H^+]$ concentration of 4.5×10^{-7} M, is this an acidic or basic solution? Explain.

2. An acidic solution has a pH of 4. If I dilute 10 mL of this solution to a final volume of 1000 mL, what is the pH of the resulting solution?

3. Determine the pH and pOH of the following solutions:
 - a. a 4.5×10^{-3} M HBr solution.

 - b. a 3.67×10^{-5} M KOH solution.

 - c. a solution made by diluting 25 mL of 6.0 M HCl until the final volume of the solution is 1.75 L.

4. Find the pH of a 0.065 M solution of formic acid. The acid dissociation constant (K_a) for formic acid is 1.8×10^{-4} .

5. If the pH of $HC_3H_5O_2$ is 4.2 and the $K_a = 1.8 \times 10^{-5}$.
 - a. what is the equilibrium concentration of $HC_3H_5O_2$?

 - b. what was the initial concentration of HC_3H_5O before dissociation?