**Chemistry** - *Acids and Bases Practice Problems* Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1a. Calculate the hydrogen ion concentration [H+] of a 0.1 M NaOH solution.

b. What is the pH of this solution?

2a. What is the [H+ ] of a solution with a pH = 5?

b. What is the hydroxide ion concentration [OH-] of this solution?

3a. What is the molarity of a solution made by dissolving 1.90 g HCl in 642 mL of water?

b. What is the hydronium ion concentration of this solution?

c. What is the pH of this solution?

4a. What is the hydroxide ion concentration in solution when 16.3 g KOH are dissolved in 4.07 L water?

b. What is the [H+] for this solution? c. What is the pH of this solution?

5a. Calculate the [H+] when 0.314 g H2SO4 are dissolved in 10.79 L of water.

b. What is the [OH-]?

c. What is the pH of this solution?

6a. Determine the [OH-] when 0.009 g Ba(OH)2 is dissolved in 3.55 L of water.

b. What is the [H+]? c. What is the pH?

7a. What is the hydronium ion concentration for a solution with a pH = 5.17?

b. What is the hydroxide ion concentration?

8a. Calculate the hydronium ion concentration for a solution that has a pH = 9.22.

b. What is the hydroxide ion concentration?

9. What is the [H3O+] when 5.61 g H3PO4 are dissolved in 78.3 mL of water? Assume 100% dissociation.

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