**pH and Concentration Practice Problems**



**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Hour:\_\_\_\_\_**

1. What is the concentration of OH- ions in saturated limewater if [H3O+] = 3.98 x 10-13 M? Is limewater acidic, basic, or neutral?

2. What is the concentration of H3O+ ions in a wheat flour and water solution if [OH-] = 1.0 x 10-8 M? Is it acidic, basic, or neutral?

3. What is the concentration of H3O+ ions in 0.1M ammonia if [OH-] = 1.26 x 10-3 M? Is ammonia acidic, basic, or neutral?

4. What is the concentration of OH- ions in butter if [H3O+] = 6.0 x 10-7 M? Is butter acidic, basic, or neutral?

5. Analysis of a sample of a maple syrup reveals that the concentration of OH- ions is 5.0 x 10-8 M. What is the pH of this syrup? Is it acidic, basic, or neutral?

6. In a sample of bananas and water it is found that [H3O+] = 2.51 x 10-5 M. What is the corresponding pH value, and are the bananas and water acidic, basic, or neutral?

7. A sample of human blood plasma is found to have a concentration of H3O+ of 3.72 x 10-8 M. What is the pH of this sample? Is it acidic, basic, or neutral?

8. A volume of 30. mL of 0.25M HCl neutralizes a 50. mL sample of KOH solution. What is the concentration of KOH?

9. A volume of 9.0 mL of 0.70M NH3 neutralizes a 35 mL sample of HClO4 solution. What is the concentration of HClO4?

10. A volume of 37 mL of 0.36M KCN neutralizes a 75 mL sample of HClO solution. What is the concentration of HClO?

11. A volume of 46 mL of 0.40M NaOH neutralizes an 80. mL sample of HCN solution. What is the concentration of HCN?

12. A volume of 135 mL of 0.40M HCl neutralizes a 90. mL sample of Ca(OH)2 solution. What is the concentration of Ca(OH)2?