Name _____ Date _____ Class _____

19–1 Practice Problems

1. What is the concentration of OH^- ions in saturated limewater if $[H_3O^+] = 3.98 \times 10^{-13}$ *M*? Is limewater acidic, basic, or neutral?

2. What is the concentration of H_3O^+ ions in a wheat flour and water solution if $[OH^-] = 1.0 \times 10^{-8}$ *M*? Is wheat flour and water acidic, basic, or neutral?

3. What is the concentration of OH^- ions in a potato and water solution if $[H_3O^+] = 1.6 \times 10^{-6}$ *M*? Are potatoes and water acidic, basic, or neutral?

4. What is the concentration of H_3O^+ ions in 0.1 *M* ammonia if $[OH^-] = 1.26 \times 10^{-3}$ *M*? Is ammonia acidic, basic, or neutral?

5. What is the concentration of OH^- ions in butter if $[H_3O^+] = 6.0 \times 10^{-7}$ *M*? Is butter acidic, basic, or neutral?

6. What is the concentration of H_3O^+ ions in peaches if $[OH^-] = 3.16 \times 10^{-11}$ *M*? Are peaches acidic, basic, or neutral?

7. What is the concentration of OH^- ions in 0.1 *M* borax if $[H_3O^+] = 6.31 \times 10^{-10}$ *M*? Is borax acidic, basic, or neutral?

8. What is the concentration of H_3O^+ ions in eggs if $[OH^-] = 6.0 \times 10^{-7}$ *M*? Are eggs acidic, basic, or neutral?

9. What is the concentration of OH^- ions in 0.1 *M* bicarbonate of soda if $[H_3O^+] = 3.98 \times 10^{-9}$ *M*? Is bicarbonate of soda acidic, basic, or neutral?

10. During the course of the day, human saliva varies between being acidic and basic. What is the concentration of H_3O^+ ions in saliva if $[OH^-] = 3.16 \times 10^{-8}$ *M*? Is this sample of saliva acidic, basic, or neutral?

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19–1 Practice Problems (continued)

11. Analysis of a sample of maple syrup reveals that the concentration of OH^- ions is 5.0×10^{-8} *M*. What is the pH of this syrup? Is it acidic, neutral, or basic?

12. In a sample of bananas and water, it is found that $[H_3O^+] = 2.51 \times 10^{-5}$ *M*. What is the corresponding pH value, and are the bananas and water acidic, neutral, or basic?

13. $[OH^-] = 7.94 \times 10^{-12}$ *M* in a sample of vinegar. What is the pH of the vinegar, and is it acidic, neutral, or basic?

14. A sample of human blood plasma is found to have a concentration of H_3O^+ ions of 3.72×10^{-8} *M*. What is the pH of this sample? Is it an acid, a base, or neutral?

15. In a sample of saturated magnesia, it is found that $[OH^-] = 3.22 \times 10^{-4}$ *M*. What is the pH of this sample, and is it acidic, neutral, or basic?

16. Tomatoes are found to have a hydronium ion (H_3O^+) concentration of 6.2×10^{-5} *M*. What is the pH of these tomatoes, and are they acidic, neutral, or basic?

17. A saturated solution of calcium carbonate has a hydroxide concentration of 2.44×10^{-4} *M*. What is the pH of this solution, and is it acidic, neutral, or basic?

18. The hydronium concentration in a urine specimen is measured to be 6.3×10^{-6} *M*. What is the pH of this sample, and is it acidic, neutral, or basic?

19. What is the pH of sour pickles if $[OH^-] = 1.6 \times 10^{-10}$ *M*? Are the pickles acidic, neutral, or basic?

20. The hydroxide content of a popular soft drink is measured and found to be 4.11×10^{-9} *M*. What is the pH of this soft drink, and is it acidic, neutral, or basic?