

## EXTRA PRACTICE: pH & pOH

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

1. What is  $[\text{OH}^-]$  in saturated limewater if  $[\text{H}_3\text{O}^+] = 3.98 \times 10^{-13}\text{M}$ ? Is limewater acidic, basic, or neutral?
2. What is  $[\text{H}_3\text{O}^+]$  in a wheat flour-and-water solution if  $[\text{OH}^-] = 1.0 \times 10^{-8}\text{M}$ ? Is wheat flour-and-water acidic, basic, or neutral?
3. What is  $[\text{OH}^-]$  in a potato-and-water solution if  $[\text{H}_3\text{O}^+] = 1.6 \times 10^{-6}\text{M}$ ? Is potato-and-water acidic, basic, or neutral?
4. What is  $[\text{H}_3\text{O}^+]$  in a solution of 0.1M ammonia if  $[\text{OH}^-] = 1.26 \times 10^{-3}\text{M}$ ? Is ammonia acidic, basic, or neutral?
5. What is  $[\text{OH}^-]$  in a pat of butter if  $[\text{H}_3\text{O}^+] = 6.0 \times 10^{-7}\text{M}$ ? Is butter acidic, basic, or neutral?
6. What is  $[\text{H}_3\text{O}^+]$  in canned peaches if  $[\text{OH}^-] = 3.16 \times 10^{-11}\text{M}$ ? Are peaches acidic, basic, or neutral?
7. What is  $[\text{OH}^-]$  in a sample of 0.1M borax if  $[\text{H}_3\text{O}^+] = 6.31 \times 10^{-10}\text{M}$ ? Is borax acidic, basic, or neutral?
8. What is  $[\text{H}_3\text{O}^+]$  in farm fresh eggs if  $[\text{OH}^-] = 6.5 \times 10^{-7}\text{M}$ ? Are eggs acidic, basic, or neutral?
9. What is  $[\text{OH}^-]$  in 0.1M bicarbonate of soda if  $[\text{H}_3\text{O}^+] = 3.98 \times 10^{-9}\text{M}$ ? 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  $[\text{H}_3\text{O}^+]$  in "morning" saliva if  $[\text{OH}^-] = 3.16 \times 10^{-8}\text{M}$ ? Is saliva at this point acidic, basic, or neutral?

11. Analysis of maple syrup reveals that  $[\text{OH}^-]$  is  $5.0 \times 10^{-8}\text{M}$ . What is the pH of the syrup and is it acidic, basic, or neutral?
12. In a sample of bananas and water,  $[\text{H}_3\text{O}^+]$  is found to be  $2.51 \times 10^{-5}\text{M}$ . What is the pH of the sample and is it acidic, basic, or neutral?
13. A sample of vinegar is found to have  $[\text{OH}^-] = 7.94 \times 10^{-12}\text{M}$ . What is the pH of the vinegar and is it acidic, basic, or neutral?
14. A sample of human blood plasma is found to have  $[\text{H}_3\text{O}^+] = 3.72 \times 10^{-8}\text{M}$ . What is the pH of the plasma and is it acidic, basic, or neutral?
15. In a sample of saturated magnesia,  $[\text{OH}^-] = 3.22 \times 10^{-4}\text{M}$ . What is the pH of the magnesia and is it acidic, basic, or neutral?
16. Crushed tomatoes are found to have  $[\text{H}_3\text{O}^+]$  of  $6.2 \times 10^{-5}\text{M}$ . What is the pH of the tomatoes and is it acidic, basic, or neutral?
17. A saturated solution of calcium carbonate has  $[\text{OH}^-]$  of  $2.44 \times 10^{-4}\text{M}$ . What is the pH of the solution and is it acidic, basic, or neutral?
18. The  $[\text{H}_3\text{O}^+]$  in a urine specimen is measured to be  $6.3 \times 10^{-6}\text{M}$ . What is the pH of the specimen and is it acidic, basic, or neutral?
19. What is the pH of sour dill pickles if  $[\text{OH}^-] = 1.6 \times 10^{-10}\text{M}$ ? Is it acidic, basic, or neutral?
20. The  $[\text{OH}^-]$  of a popular soft drink is measured and found to be  $4.11 \times 10^{-9}\text{M}$ . What is the pH of the soft drink and is it acidic, basic, or neutral?