

Name \_\_\_\_\_ Section \_\_\_\_\_ Date \_\_\_\_\_

## pH Concept

1. Write the equilibrium equation for self ionization of water. Write the equilibrium expression for this reaction.

2. What is pH? What is the range of pH values?

3. What is the pH of a neutral solution?

4. a. What is the pH of a solution with  $[H^+] = 1.0 \times 10^{-10}$ ?

b. What is the hydroxide concentration in this solution? Is it acidic or basic?

c. What is the pH of a solution with  $[H^+] = 1.0 \times 10^{-3}$ ? Is it acidic or basic?

5. Use the words high or low to fill in the following blanks.

Acidic solutions have \_\_\_\_\_  $H^+$  ion concentration and \_\_\_\_\_ pH values.

Basic solutions have \_\_\_\_\_  $H^+$  ion concentration and \_\_\_\_\_ pH values.

Acidic solutions have \_\_\_\_\_  $H^+$  ion concentration and \_\_\_\_\_  $OH^-$  ion concentration.

Basic solutions have \_\_\_\_\_  $H^+$  ion concentration and \_\_\_\_\_  $OH^-$  ion concentration.

6. What is a buffer solution? Give examples of buffers in human body.