Chemistry   Name _____

Chapter 19   Date _____

Acid & Base Practice Problems   Block _____

1. What is the pH of a solution with $[H^+] = 1 \times 10^{-3}M$?

2. What is the pOH of a solution if the $[OH^-] = 3.5 \times 10^{-2}M$?

3. What is the pOH of a solution that has a pH of 3.4?

4. A solution has a pOH of 12.4. What is the pH of this solution?

5. Measurements of the pH of blood and urine are commonly used in diagnosing disease. The pH of the blood plasma of severely diabetic people, for example, is often lower than the normal value of 7.4; this condition is called acidosis. What is the $[H^+]$ in the blood plasma of a non-diabetic person with a pH of 7.4?

6. Gastric juice in our stomach has a hydrogen ion concentration of $3.16 \times 10^{-2}M$. What is the pH of Gastric juice? Is this strongly acidic or basic?

7. Household ammonia has a pH of 12. What is the hydrogen ion concentration of ammonia?

8. Classify each solution as acidic, basic, or neutral?
     a) $[H^+] = 2.5 \times 10^{-9}M$

     b) pOH = 12.0

     c) $[OH^-] = 9.8 \times 10^{-11}M$

     d) $[H^+] = 1 \times 10^{-7}M$

     e) pH = 0.8

9. Calculate the pH of each solution.
     a) $[H^+] = 1 \times 10^{-5}M$

     b) $[H^+] = 4.4 \times 10^{-11}M$

     c) $[OH^-] = 2.2 \times 10^{-7}M$

     d) pOH = 1.4

10. Lysosomal enzymes that function in digestion within our bodies perform best in an acidic environment with a hydrogen concentration of $1 \times 10^{-5}M$. What pH is the best for these enzymes to function?