Chemistry B



Name: Date: Period:

<u>Chapter 16</u> : Acids and Bases.

- 1. What are some general characteristics of acids and bases? According to the Arrhenius model, what is an acid? What is a base? (503)
- 2. According to the Bronsted-Lowry model, what is an acid? What is a base? (504)
- 3. How do the components of a conjugate acid-base pair differ from one another? Give an example of a conjugate acid-base pair. (504)
- 4. Look at Example 16.1 and 16.2. Complete the self-check. *Answer at bottom of this page*. (505-506)
- 5. Describe the characteristics of a strong acid. What does the text mean by the term, *forward reaction* or *reverse reaction*? (507-508)
- 6. What is an oxyacid? How is this different from an organic acid? (509)
- 7. What is an amphoteric substance? What is $\mathbf{K}_{\mathbf{w}}$? What does it represent? How is it calculated? How is it used to determine the strength of an acid or base? Look at Example 16.3. Complete the self-check. *Answer at bottom of this page*. (510-512)
- 8. What is pH? Look at Example 16.5. Complete the self-check. *Answer at bottom of this page*. What does the p in pH stand for? What about the H? Is there such a thing as pOH? If so, how is it different from pH? (513-516)
- 9. What is an indicator? Give a few examples. How does indicator paper work? (521)
- 10. What is a neutralization reaction? How does acid-base titration work? (524-527)

Homework: Page 532-534. Problems # 7, 9, 10, 22a, 23a, 30a and c, 31c and 43. Self-Check Answers

16.1 H_2O (base) H_3O^+ (conjugate acid) and $HC_2H_3O_2$ (acid) $C_2H_3O_2^-$ (conjugate base). The member of both pairs differ by one H^+

16.2 Because $[H^+]$ $[OH^-] = 1.0 \times 10^{-14}$, we can solve for $[H^+]$. $[H^+] = \underline{1.0 \times 10^{-14}}$ $[H^+] = \underline{1.0 \times 10^{-14}}$ $[H^+] = 5.0 \times 10^{-13} \text{ M}$ This means it is basic

16.3 a. Because $[H^+] = 1.0 \times 10^{-3} \text{ M}$, we get pH = 3.00 by using the regular steps. **b.** Because $[OH^-] = 5.0 \times 10^{-5} \text{ M}$ we can find $[H^+]$ from the K_w expression $[H^+] = \underline{K_w}$ $[H^+] = \underline{1.0 \times 10^{-14}} = 2.0 \times 10^{-10} \text{ M}$ [OH⁻] 5.0 x 10⁻⁵