Ch 15-16 Acid-Base Test Review Name_____

1. How are acids and bases related to electrolytes? (strong/weak etc.) What must the solution contain?
2. Define electrolyte.
3. List some characteristics of acids.
4. List some characteristics of bases.
5. Litmus paper turns _____ in a base and _____in an acid.
6. Define indicator.
7. What is an amphoteric substance?
8. What is the formula for a hydronium ion?
9. What is the pH of a neutral solution?
10. What pH range is acidic _____ what pH range is basic? _____
11. What type of reactions form precipitates?
12. Using solubility rules on p 427, which of the following would be insoluble?

    $Cu(NO_3)_2$ NaCl $Fe(NO_3)_3$ $MgCl_2$ K_2CO_3 $NaNO_3$ $BaSO_4$ $Fe_{2(}CO_3)_3$

13. Which solution is more concentrated? 10.0 M or 2.0 M
14. Is acetic acid a strong or weak electrolyte, where is this information found?
15. What 2 things are formed in a neutralization reaction?
16. What state of matter is **one** of the products in a precipitation reaction ALWAYS from 2 aqueous solutions that are reacted?
17. Compare and contrast the three Acid-Base Theories: Arrhenius, Brønsted-Lowry, and Lewis. Make sure you know each theories' definition of what an acid and base is and in B-L theory, what the conjugate acid and bases are.

Practice problems: Calculate pH

1. If the $[H_3O] = 2.3 \times 10^{-4}$ M what is the pH of the solution?
2. If the $[H_3O] = 4.3 \times 10^{-3}$ M what is the pH of the solution?
3. What is the hydronium concentration of a pH of 5.6
4. What is the hydronium concentration of a pH of 8.2
5. Try and determine the products of this neutralization reaction: $Ca(OH)_2 + 2HF \rightarrow$

Old Review:

6. Molarity calculation: How many moles of HCl are in 0.8L of a 0.4M solution. (M=moles/L)