Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period: \_\_\_\_\_\_\_

Pretest-Study Guide “Acid-Bases”

Honors Chem.

1. Hydrochloric acid reacts with magnesium. What gas is evolved?
2. Will KOH react with Mg?
3. According to the Arrhenius Theory, acids give off (increase) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in an aqueous solution.
4. The hydrogen ion consists of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. In water, the hydrogen ion exists has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. A \_\_\_\_\_\_\_\_\_base partially dissociates in water.
7. List the strong acids you were instructed to memorize
8. List the strong bases you were instructed to memorize
9. Draw two pictures, one that represents a weak acid and the other for a strong acid.
10. According to the Bronsted-Lowry Theory, acids \_\_\_\_\_\_\_\_\_\_\_ .
11. A substance that “acts” like an acid and a base in the Bronsted-Lowery Theory is called a(an)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
12. What is the acid(A), base(B), conjugate acid(CA), conjugate base (CB) in the acid-base reaction, HPO4 2- + H2O ↔ H2PO4 - + OH-.
13. Identify the two conjugate acid-base pairs in NH3 +HCl ↔ NH4+ + Cl-.
14. In an acidic solution, the [H3O+] \_\_\_\_\_\_\_\_\_\_ [OH-].
15. In a neutral solution, the [H3O+] \_\_\_\_\_\_\_\_\_\_ [OH-].
16. A solution that has a pH= 2 is how many times more acid than pH= 5?
17. What is the pH of a solution of HClwith a hydronium ion concentration of 0.02 M
18. A solution of nitric acid has a pH= 2.50. What is the hydronium ion concentration?
19. What is the pH of a solution of NH3 with a [OH-] of 1.55 x 10 -4 M?
20. What is the pH of a 0.0300 M H2SO4 solution?
21. Is a solution with pH= 2 more acidic than a solution with a pOH=12?
22. NH3 is a \_\_\_\_\_\_\_\_\_\_\_ base.
23. What is the formula for phosphoric acid?
24. What is the formula for magnesium hydroxide?
25. An acid-base neutralization reaction is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_type of reaction.
26. Complete and balance the following reaction: sulfuric acid reacts with

aqueous sodium hydroxide to produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_reactions are use in acid-base titrations.
2. The neutralization of a \_\_\_\_\_\_\_\_\_ acid and a \_\_\_\_\_\_\_\_\_ base will make a neutral salt in water.
3. The neutralization of a\_\_\_\_\_\_\_\_ acid and a \_\_\_\_\_\_\_ base will make a slightly basic solution.
4. 20.0 ml of 2.50 M NaOH solution was used to titrate 40.0 ml of HCl. What is the [HCl]?
5. How much of a 5.50 M NaOH solution was used to titrate 50.0 ml of 4.0 M H2SO4 (aq)?
6. Name the acid HClO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?
7. Name the acid H2S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?
8. Name the acid H2SO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?
9. HCN + H2O produces H3O+ CN- Identify the acid and base in this reaction.

Please make sure you study your notes and you are able to **APPLY** the definitions and/or theory when presented with a question. This is an Honors class which means it is more than blatant memorization of terms, properties and theory. You must be able to **APPLY** the basic information.