Quiz 1 Review

*\*Be able to tell the difference between an* ***acid and a base****.*

*\*Be able to name* ***binary acids, polyatomic acids, and bases.***

*\*\*\*Memorize your* ***REQUIRED POLYATOMICS!!!***

*\*Make sure you know how to name/ give formula acids and bases! This will be the HARDEST SECTION on the quiz.*

I. Identify the following as an acid (A) or a base (B) in the first blank. Give the appropriate name for each on the second.

1. \_\_\_H3P \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6. \_\_\_ NH4OH \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_H3PO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7. \_\_\_ HC2H3O2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_ H3PO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 8. \_\_\_ H2S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_ Ca(OH)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9. \_\_\_ HNO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. \_\_\_HBr  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10. \_\_\_Cu(OH)2  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

II. Identify the following as an acid (A) or a base (B) in the first blank. Give the appropriate formula for each on the second.

11. \_\_\_ammonia \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 15. \_\_\_ magnesium hydroxide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. \_\_\_sulfurous acid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 16. \_\_\_ cobalt (II) hydroxide\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. \_\_\_ hydrosulfuric acid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 17. \_\_\_ carbonic acid\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. \_\_\_ sulfuric acid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 18. \_\_\_ hydrofluoric acid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*\*Know ALL the properties for ACIDS and BASES.*

*\*Know the definition of a strong acid/ base and weak acid/ base.*

*\*Be able to recognize the difference between MONOPROTIC, DIPROTIC, and TRIPROTIC acids.*

III. Identify the following as a strong acid/ base or weak acid/ base:

19. HCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 22. LiOH \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 25. HF \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

20. H2S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 23. H2SO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 26. Mg(OH)2 \_\_\_\_\_\_\_\_\_\_\_\_\_

21. Cu(OH)2 \_\_\_\_\_\_\_\_\_\_\_\_\_ 24. HClO2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 27. HClO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_

*\*Know that ACIDS, BASES, and IONICS (SALTS) are all ELECTROLYTES (can conduct electricity). COVALENT molecules are NONELECTROLYTES.*

*\* recognize that when you add an acid and a base together you produce salt and water. This is a double replacement reaction that is specifically called NEUTRALIZATION REACTION.*

*Neutralization reaction: Acid + Base 🡪 Salt + water*

*2HF + Mg(OH)2 🡪 MgF2 + 2HOH*

IV. Identify the following as an electrolyte (conducts electricity in solution) OR nonelectrolyte (cannot conducts electricity in solution).

28. HCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 31. NO\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 34. C6H12O6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_

29. H2S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 32. NaOH\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 35. NaCl \_\_\_\_\_\_\_\_\_\_\_\_\_

30. O2 \_\_\_\_\_\_\_\_\_\_\_\_\_ 33. CuF \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 36. Al(OH)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*continue on backside.

*\*Know the difference between Arrhenius, Bronsted-Lowry, and Lewis theories for ACIDS and BASES.*

*\* Know the term AMPHOTERISM.*

*Ex: H2O + H2O 🡪 H3O+ + OH-*

V. Give the following as instructed.

What is the **Conjugate Base** for the following **Acids**? What is the **Conjugate Acid** for the following **Bases**?

37. H2S 39. H2O

38. H2PO4-1 40. CO3-2

VI. Identify the following as either acid (A), base (B), conjugate acid (CA), or conjugate base (CB):

41. H2AsO4-1 + H2O 🡪 H3O+1 + H3AsO4

42. NH4+1 + HS-1  🡪 H2S + NH3