

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. <u>A</u> H_3P <u>hydrophosphoric acid</u> | 6. <u>B</u> NH_4OH <u>ammonium hydroxide</u> |
| 2. <u>A</u> H_3PO_3 <u>phosphorous acid</u> | 7. <u>A</u> $HC_2H_3O_2$ <u>acetic acid</u> |
| 3. <u>A</u> H_3PO_4 <u>phosphoric acid</u> | 8. <u>A</u> H_2S <u>hydrosulfuric acid</u> |
| 4. <u>B</u> $Ca(OH)_2$ <u>calcium hydroxide</u> | 9. <u>A</u> HNO_3 <u>nitric acid</u> |
| 5. <u>A</u> HBr <u>hydrobromic acid</u> | 10. <u>B</u> $Cu(OH)_2$ <u>copper(II) hydroxide</u> |

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. <u>B</u> ammonia <u>NH_3</u> | 15. <u>B</u> magnesium hydroxide <u>$Mg^{+2} (OH^-)_2$</u> |
| 12. <u>A</u> sulfurous acid <u>H_2SO_3</u> | 16. <u>B</u> cobalt (II) hydroxide <u>$Co^{+2} (OH^-)_2$</u> |
| 13. <u>A</u> hydrosulfuric acid <u>H_2S</u> | 17. <u>A</u> carbonic acid <u>$H^+(CO_3)^{-2}$</u> |
| 14. <u>A</u> sulfuric acid <u>$H^+ (SO_4)^{-2}$</u> | 18. <u>A</u> hydrofluoric acid <u>$H^+ F^-$</u> |

*Know ALL the properties for ACIDS and BASES.

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

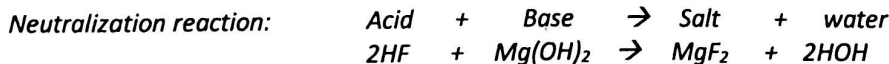
*Be able to recognize the difference between MONOPROTIC, DIPROTIC, and TRIPROTIC acids.

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

- | | | |
|----------------------------|-----------------------------|----------------------------|
| 19. HCl <u>strong</u> | 22. $LiOH$ <u>strong</u> | 25. HF <u>weak</u> |
| 20. H_2S <u>weak</u> | 23. H_2SO_4 <u>strong</u> | 26. $Mg(OH)_2$ <u>weak</u> |
| 21. $Cu(OH)_2$ <u>weak</u> | 24. $HClO_2$ <u>weak</u> | 27. $HClO_3$ <u>strong</u> |

*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.

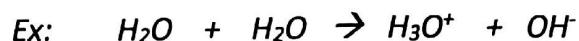


IV. Identify the following as an electrolyte (conducts electricity in solution) OR nonelectrolyte (cannot conduct electricity in solution).

- | | | |
|---------------------------------|--------------------------------|--|
| 28. HCl <u>electrolyte</u> | 31. NO <u>nonelectrolyte</u> | 34. $C_6H_{12}O_6$ <u>nonelectrolyte</u> |
| 29. H_2S <u>electrolyte</u> | 32. $NaOH$ <u>electrolyte</u> | 35. $NaCl$ <u>electrolyte</u> |
| 30. O_2 <u>nonelectrolyte</u> | 33. CuF <u>electrolyte</u> | 36. $Al(OH)_3$ <u>electrolyte</u> |

*continue on backside.

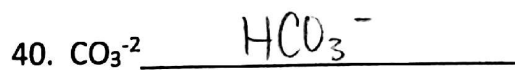
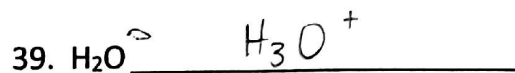
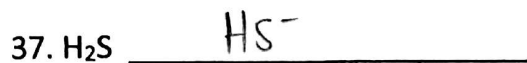
*Know the difference between Arrhenius, Bronsted-Lowry, and Lewis theories for ACIDS and BASES.
 * Know the term AMPHOTERISM.



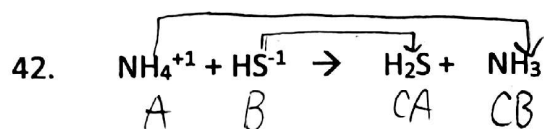
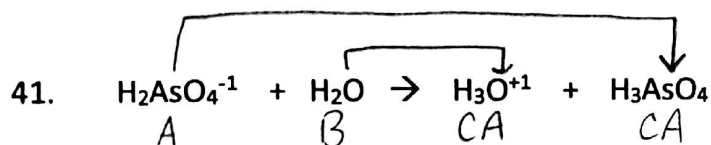
V. Give the following as instructed.

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

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



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



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