Formula Units, Total Ionic, and Net Ionic Equations **Name: _____**

U9LM2B-WS

1. A chemical equation that shows only formula units of reactants and products followed by their physical states is called **_____.**
2. Strong electrolytes exist predominantly as _____ in aqueous solutions.
3. **_____ slightly** break into ions in aqueous solutions. **They predominantly stay in their unionized or un-dissociated forms.**
4. A chemical equation that shows reactants and products in their predominant forms in aqueous solution is called **_____.**
5. Nitric acid, HNO_3 is a strong acid. Therefore, it is a _____electrolyte and must be shown as _____in a total ionic equation.
6. Strontium hydroxide, $Sr(OH)_2$, is a _____. Therefore, it is a _____electrolyte and must be shown as _____in a total ionic equation.
7. Ammonia, NH_3, is a _____. Therefore, it is a _____electrolyte and must be shown as _____in a total ionic equation.
8. Hydrofluoric acid, HF, is a _____. Therefore, it is a _____electrolyte and must be shown as _____in a total ionic equation.
9. Hydrosulfuric acid, H_2S, is a _____. Therefore, it is a _____electrolyte and must be shown as _____ in a total ionic equation.
10. Sulfuric acid, H_2SO_4 is a _____. Therefore, it is a _____electrolyte and must be shown as _____in a total ionic equation.
11. Sulfurous acid, H_2SO_3 is a _____. Therefore, it is a _____electrolyte and must be shown as _____in a total ionic equation.
12. Acetic acid, CH_3COOH, is a _____. Therefore, it is a _____electrolyte and must be shown as _____in a total ionic equation.
13. Copper (II) sulfate, $CuSO_4$, is a _____. Therefore, it is a _____electrolyte and must be shown as _____in a total ionic equation.
14. Zinc phosphate, $Zn_3(PO_4)_2$, is an _____. Therefore, it must be shown as _____in a total ionic equation.
15. **A reactant or a product must be broken into its ions in a total ionic equation only if it is a _____.**
16. **A reactant or a product must be written in its formula unit form in a total ionic equation if it is _____, _____, or _____.**
17. A chemical equation that shows only species that take an active part in the actual chemical reaction is called **_____.**
18. Ions that show in the total ionic equation but do not participate in the actual chemical reaction are called **_____.**
19. Consider the following formula unit equation: $Li_2SO_4(aq) + Ba(NO_3)_2(aq) \rightarrow BaSO_4(s) + 2LiNO_3(aq)$
    a. The strong electrolytes are:

b. The total ionic equation is:

c. The spectator ions are:

d. The net ionic equation is:

20. Aqueous silver nitrate reacts with aqueous potassium phosphate to produce aqueous potassium nitrate and insoluble silver phosphate.

    a. The corresponding formula unit equation is:

    b. The strong electrolytes are:

    c. The total ionic equation is:

    d. The spectator ions are:

    e. The net ionic equation is:

21. Write the formula unit equation for the reaction that occurs when sulfuric acid solution reacts with barium hydroxide solution to give barium sulfate and water.

    a. The corresponding formula unit equation is:

    b. The strong electrolytes are:

    c. The total ionic equation is:

    d. The spectator ions are:

    e. The net ionic equation is:

    f. The precipitate is:

22. When an acetic acid solution is mixed with a sodium hydroxide solution, the salt sodium acetate and water are produced.

    a. The corresponding formula unit equation is:

    b. The strong electrolytes are:

    c. The total ionic equation is:

    d. The spectator ions are:

    e. The net ionic equation is:

23. When ammonia solution and hydrochloric acid solution are mixed, the aqueous salt, ammonium chloride, is produced.

    a. The corresponding formula unit equation is:

    b. The strong electrolytes are:

    c. The total ionic equation is:

    d. The spectator ions are:

    e. The net ionic equation is: