NAME: **HONORS CHEMISTRY**

SECTION: Acid Nomenclature

Refer to your list of polyatomic ions and a periodic table.

* Binary acids (When the anion does NOT contain oxygen):

Use the prefix *hydro* + **root of the anion’s name** – *ic* + the word acid

Examples: HCl - *hydro***chlor***ic* acid; HBr- *hydro***brom***ic* acid

* Ternary acids (When the anion contains oxygen):

The name will depend on the name of the polyatomic anion. DO NOT use the prefix hydro.

Examples: H2SO4 the anion is sulf**ate**, therefore the acid name will end in **ic : Sulfuric acid.**

H2SO3 the anion is sulf**ite**, therefore the name of the acid will end in **ous**: **Sulfurous acid.**

ATE → IC

ITE → OUS

Write the formula for each of the acids listed below:

|  |  |
| --- | --- |
| 1. Nitric acid |  |
| 1. Acetic acid |  |
| 1. Hydrobromic acid |  |
| 1. Sulfurous acid |  |
| 1. Chlorous acid |  |
| 1. Hydrochloric acid |  |
| 1. Phosphoric acid |  |
| 1. Nitrous acid |  |
| 1. Hydrofluoric acid |  |
| 1. Perchloric acid |  |
| 1. Hydroiodic acid |  |
| 1. Sulfuric acid |  |

Name each of the following acids:

|  |  |
| --- | --- |
| 1. HClO4(aq) |  |
| 1. H3PO4(aq) |  |
| 1. H2S (aq) |  |
| 1. HNO2(aq) |  |
| 1. HCN(aq) |  |
| 1. HC2H3O2(aq) |  |
| 1. HClO3(aq) |  |
| 1. H2CO3(aq) |  |

Note the (aq) symbol…we only name these substances as acids when dissolved in water! As pure substances, they are gases and we name them as ionic compounds.

Acid Nomenclature Worksheet Name \_\_\_\_\_KEY\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write the formula for each of the acids listed below:

|  |  |
| --- | --- |
| 1. Nitric acid | HNO3 |
| 2. Chloric acid | HClO3 |
| 3. Acetic acid | HC2H3O2 |
| 4. Hydrobromic acid | HBr |
| 5. Sulfurous acid | H2SO3 |
| 6. Chlorous acid | HClO2 |
| 7. Hydrochloric acid | HCl |
| 8. Phosphoric acid | H3PO4 |
| 9. Nitrous acid | HNO2 |
| 10. Hydrofluoric acid | HF |
| 11. Perchloric acid | HClO4 |
| 12. Hydroiodic acid | HI |
| 13. Phosphorous acid | H3PO3 |
| 14. Carbonic acid | H2CO3 |
| 15. Sulfuric acid | H2SO4 |

Name each of the following acids:

|  |  |
| --- | --- |
| 16. HClO4 | Perchloric acid |
| 17. H3PO4 | Phosphoric acid |
| 18. HCl (aq) | Hydrochloric acid |
| 19. H2SO4 | Sulfuric acid |
| 20. HNO2 | Nitrous acid |
| 21. HI (aq) | Hydroiodic acid |
| 22. HC2H3O2 | Acetic acid |
| 23. HF (aq) | Hydrofluoric acid |
| 24. H3PO3 | Phosphorous acid |
| 25. HClO3 | Chloric acid |
| 26. H2CO3 | Carbonic acid |
| 27. H2SO3 | Sulfurous acid |
| 28. HClO2 | Chlorous acid |
| 29. HNO3 | Nitric acid |
| 30. HBr (aq) | Hydrobromic acid |

For the following bases, write the respective chemical formula or its name

|  |  |
| --- | --- |
| 31. NaOH | Sodium hydroxide |
| 32. Mg(OH)2 | Magnesium hydroxide |
| 33. NH4OH | Ammonium hydroxide |
| 34. Ca(OH)2 |  |