

### Ion Charges

Instructions: Write the charge that each of the following elements would form in an ionic compound.

- |             |             |                 |
|-------------|-------------|-----------------|
| a) Al _____ | d) F _____  | g) Fe(II) _____ |
| b) S _____  | e) Cs _____ | h) Li _____     |
| c) K _____  | f) Ag _____ | i) Sn(IV) _____ |

### Naming Ion Charges

Instructions: Name each of the following ions correctly.

- |                          |                           |                          |
|--------------------------|---------------------------|--------------------------|
| a) $\text{N}^{3-}$ _____ | d) $\text{Cd}^{2+}$ _____ | g) $\text{Cu}^{+}$ _____ |
| b) $\text{Cl}^{-}$ _____ | e) $\text{Fe}^{3+}$ _____ | h) $\text{O}^{2-}$ _____ |
| c) $\text{Na}^{+}$ _____ | f) $\text{S}^{2-}$ _____  | i) $\text{Br}^{-}$ _____ |

### Molecular vs. Ionic Naming

Instructions: Determine whether the following compounds are ionic (I) or molecular (M) (circle one). Then use the correct rules to name the following compounds.

- a) M or I –  $\text{As}_4\text{O}_{10}$  \_\_\_\_\_
- b) M or I –  $\text{KMnO}_4$  \_\_\_\_\_
- c) M or I –  $\text{HgCl}_2$  \_\_\_\_\_
- d) M or I –  $\text{FePO}_4$  \_\_\_\_\_
- e) M or I –  $\text{NO}$  \_\_\_\_\_
- f) M or I –  $\text{F}_2\text{Cl}_5$  \_\_\_\_\_
- g) M or I –  $\text{NH}_4\text{Br}$  \_\_\_\_\_
- h) M or I –  $\text{N}_2\text{O}_5$  \_\_\_\_\_
- i) M or I –  $\text{Zn}(\text{OH})_2$  \_\_\_\_\_
- j) M or I –  $\text{ICl}_3$  \_\_\_\_\_

### Molecular vs. Ionic Formulas

Instructions: The following contains a mixture of both ionic and molecular compounds. Determine whether the following compounds are ionic (I) or molecular (M) (circle one). Then determine the correct chemical formula from the name.

- a) M or I – Zinc cyanide \_\_\_\_\_
- b) M or I – Selenium hexafluoride \_\_\_\_\_
- c) M or I – Nitrogen dioxide \_\_\_\_\_
- d) M or I – Lithium nitride \_\_\_\_\_
- e) M or I – Lead (II) phosphate \_\_\_\_\_
- f) M or I – Dinitrogen trioxide \_\_\_\_\_
- g) M or I – Magnesium chlorate \_\_\_\_\_

- h) M or I –Tetraphosphorus nonasulfide \_\_\_\_\_
- i) M or I – Calcium sulfide \_\_\_\_\_
- j) M or I – Copper (II) nitride \_\_\_\_\_

Naming Common Acids			
Anion ending	Example	Acid name	Example
-ide	chloride, Cl <sup>-</sup>	hydro-(stem)-ic acid	hydrochloric acid
-ite	sulfite, SO <sub>3</sub> <sup>-</sup>	(stem)-ous acid	sulfurous acid
-ate	nitrate, NO <sub>3</sub> <sup>-</sup>	(stem)-ic acid	nitric acid

### Acid vs Bases Naming

Instructions: Determine whether the following compounds are acids (A) or bases (B) (circle one). Then use the correct rules to name the following compounds.

- a) A or B – H<sub>2</sub>As \_\_\_\_\_
- b) A or B – Co(OH)<sub>3</sub> \_\_\_\_\_
- c) A or B - AgOH \_\_\_\_\_
- d) A or B - Cd(OH)<sub>2</sub> \_\_\_\_\_
- e) A or B - HCN \_\_\_\_\_
- f) A or B – H<sub>3</sub>P \_\_\_\_\_
- g) A or B – H<sub>3</sub>PO<sub>4</sub> \_\_\_\_\_
- h) A or B - CsOH \_\_\_\_\_
- i) A or B - HClO \_\_\_\_\_

### Acid vs Bases Formulas

Instructions: Determine whether the following compounds are acids (A) or bases (B) (circle one). Write the correct chemical formulas for the following acids and bases.

- a) A or B – Hydrosulfuric acid \_\_\_\_\_
- b) A or B - Barium hydroxide \_\_\_\_\_
- c) A or B - Chlorous acid \_\_\_\_\_
- d) A or B – Hydroiodic acid \_\_\_\_\_
- e) A or B - Iron (III) hydroxide \_\_\_\_\_
- f) A or B – Carbonic Acid \_\_\_\_\_
- g) A or B – Sulfuric Acid \_\_\_\_\_
- h) A or B – Nitrous Acid \_\_\_\_\_
- i) A or B - Sodium hydroxide \_\_\_\_\_