Unit 5.2: Chemical Bonding Notes – Writing Chemical Formulas

**Writing Fomulas : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Write chemical symbol for each part of the compound.

Write the charge for the element.

**Do the charges \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ together and \_\_\_\_\_\_\_\_\_\_\_\_\_ zero?**

|  |  |
| --- | --- |
| **Yes**, \_\_\_\_\_\_\_ this is the formula.  The number of \_\_\_\_\_\_\_\_\_ given away is the same as what is being \_\_\_\_\_\_\_\_\_\_ by the second atom. | **No**, \_\_\_\_\_\_\_\_\_the absolute value of the charge to the opposite element as a subscript.  \_\_\_\_\_\_\_\_\_\_ the new subscript by the charge and see if the new values will add together and equal \_\_\_\_\_\_\_\_\_\_.  If \_\_\_\_\_\_\_, Stop you have the formula. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Chemical Name** | **Charge** | **Y/N** | **Formula** |
|  | +1 + -1 = 0 | **Yes** | KBr |
| **Magnesium chloride**  Mg +2 Cl -1 | +2 + -1 = +1 |  | - |
| Mg1 Cl2 |  | **Yes** | MgCl2 |

**II. Transition Elements**

Same rules as normal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ compounds. The charge for the transition metal will come from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the compound.

**Iron III Chloride**

Fe +3 Cl -1 +3 + -1 = +2 \_\_\_\_\_\_\_\_\_\_\_

Fe1 Cl 3  Fe (1 x +3) +3 Cl (3 x -1) -3 \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**III. Polyatomic Ions**

The rules for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ions will be the same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ compounds. Place the polyatomic ion in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Keep the parenthesis at the end of the process if you have a number \_\_\_\_\_\_\_\_\_\_\_\_ than one outside of the parenthesis. If you did not cross a number, or if you only crossed one do not keep the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Magnesium Sulfate**

Mg +2 (SO4) -2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MgSO4

**Iron III Phosphate**

Fe +3 (PO4) -3 Yes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Sodium Hydroxide**

Na +1 (OH) -1 Yes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Do not keep the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because there is \_\_\_\_\_\_\_\_\_\_ number crossed.

**Calcium Hydroxide**

Ca +2 (OH) -1

Ca 1 (OH)2 Ca (1 x +2) +2 (OH)(2 x -1) -2

Yes Ca(OH)2

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the parenthesis because there is a number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than one outside the parenthesis