**Ion Symbols**

Using the element’s position on the periodic table determine the oxidation number and the ion symbol of the following elements:

Hint- remember

Cation gives (no more than 3 VE), which make them positive because they gave away negative energy

Anion take (no more than 3 VE), which makes them negative because they took more electrons

|  |  |  |
| --- | --- | --- |
| **Element** | **Oxidation Number**  **(How many VE are they giving or taking?)** | **Ion Symbol**  **(Write symbol with # giving + or taking -)** |
| **Rubidium** | +1 | Rb+1 |
| **Cesium** |  |  |
| **Calcium** |  |  |
| **Barium** |  |  |
| **Gallium** |  |  |
| **Phosphorus** |  | P-3 |
| **Sulfur** |  |  |
| **Selenium** | -2 |  |
| **Fluorine** |  |  |
| **Chlorine** |  |  |
| **Bromine** |  |  |

HINTS: atomic#/atomic #/Group #/ Octet rule/total electrons

* # of VE

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Element | Metal or nonmetal | # of protons | Total # of electrons | # of valence electrons | # VE atom will gain or lose | Final # of total electrons | Calculating oxidation # | Ion symbol |
| Li | Metal | +3 | -3 | -1 | Lose -1 | (3-1)= -2 | +3 protons  -2 electrons  = +1 charge | Li+1 |
| Na |  |  | -11 |  |  |  |  |  |
| K |  | +19 |  |  |  | (19-1)=  18 |  |  |
| Be |  |  |  |  | Lose -2 |  |  |  |
| Mg |  |  | -12 |  |  |  | 12 protons  -10electrons  = +2 |  |
| Al |  |  |  |  |  |  |  | Al+3 |
| N | Non-metal | +7 | -7 | -5 | Have -5 VE  Gains -3  =-8VE | -10 | +7 protons  -10electrons  = -3 charge |  |
| O |  |  |  | 6 |  |  |  | O-2 |
| F |  |  |  |  | Has -7  Gains -2  = -8 |  |  |  |
| Cl |  |  |  |  |  |  | 9 protons  -10electrons  = -1 |  |
| Br |  |  |  | -7 |  |  |  |  |
| I |  |  |  |  | Has -7  Gains -1  = -8 |  |  | I -1 |