**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Honors Chemistry - Unit 3 Test Remediation**

1. Fill in the chart below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Element** | **Symbol** | **Group** | **Period (# Energy Levels)** | **# Valence e-** | **Oxidation #** |
| Calcium |  |  |  |  |  |
| Nitrogen |  |  |  |  |  |
| Iodine |  |  |  |  |  |
| Aluminum |  |  |  |  |  |
| Lithium |  |  |  |  |  |

1. Describe the Octet Rule.
2. What is the difference between a cation and an anion?
3. Circle the atom or ion that is larger.
   1. Chlorine or Chlorine ion
   2. Bromine or Chlorine
   3. Potassium or Potassium Ion
   4. Selenium ion or Oxygen ion
4. Circle the atom with the HIGHER ionization energy.
   1. B or N
   2. Li or K
   3. F or Al
5. Circle the atom with the HIGHER electronegativity.
   1. Mg or Sr
   2. Br or Ga
   3. As or O
6. Draw the orbital diagrams and write the electron configurations for the following elements:
   1. Silicon (longhand notation)
   2. Barium (shorthand notation)
   3. Manganese (longhand notation)