**Physical Science Quiz #3 Study Guide – Chapter 20**

1. Which group of elements are stable and do not react? List the elements found in this group.
2. Explain the octet rule.
3. Write the oxidation numbers for the following elements:
   1. Fluorine b. Oxygen c. Sodium d. Calcium e. Bromine
4. How many valance electrons do each of the following elements have?
   1. Phosphorus b. Sulfur c. Lithium d. Potassium e. Chlorine
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ electrons are involved in the bonding of atoms.
6. In an ionic compound electrons are transferred/shared (circle one) whereas in a covalent bond electrons are transferred/shared (circle one).
7. Name the following ionic compounds:
   1. NaCl
   2. MgCl2
   3. Al2S3
8. Name the following covalent compounds:
   1. PS3
   2. C4H6
   3. N2F2
9. Write the formula of the following ionic compounds:
   1. Potassium Nitride
   2. Calcium Phosphide
   3. Lithium Chloride
10. Write the formula of the following covalent compounds:
    1. Diphosphorus tetrachloride  
         
       Trinitride pentoxide  
         
       Heptanitrogen trisulfide
11. Determine if the compound is covalent or ionic. Then name each.

|  |  |  |
| --- | --- | --- |
| **Compound** | **Type of bond** | **Name** |
| **CaCl2** |  |  |
| **N2F4** |  |  |
| **PBr3** |  |  |
| **KBr** |  |  |

1. Positive oxidation numbers mean that the atom did what in order to complete the octet rule?

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1. If an ion has a negative oxidation number, more than likely what kind of element was this?

Metal or Nonmetal (circle one)

1. When atoms bond covalently, the resulting particle is called a/an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. This number tells how many electrons an atom gains, loses or shares in forming compounds:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. In writing formulas, the sum of all the oxidation number for the atoms in the compounds has to

equal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. In writing ionic formulas, which ion is written first? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_