

CHM 090 Periodic Table and Ions Worksheet

Names: _____

1. Circle the following if it is a transition metal: Na Cu O Al Ag Zn
2. Circle the following if it is a noble gas: O Ag He K Ti Xe
3. Circle the following if it is a halogen: K S Cl Al F Mg
4. The Alkaline Earth metal in the 5th row is _____
5. The Halogen in the 2nd row is _____
6. The Alkali metal in the 6th row is _____
7. The noble gas in the 1st row is _____
8. The Alkaline Earth metal in the 2nd row is _____
9. Which of the following statements is True?
 - a. An atom is charged and an ion is neutral
 - b. An atom is neutral and an ion is charged
 - c. An atoms is charged and an ion is also charged
 - d. Both atoms and ions are neutral
10. True or False?
 - a. Metals like to gain electrons. True False
 - b. Nonmetals like to gain electrons. True False
 - c. When an atom loses electrons it becomes positively charged. True False
 - d. Cations are negatively charged. True False
 - e. Anions form when metals gain electrons. True False
 - f. When an atom gains electrons it becomes negatively charged. True False
11. Potassium, K, likes to lose one electron making it this charge: Circle: -1 +1 -2 +2
12. Nitrogen, N, like to gain 3 electrons making it this charge: Circle: -3 +3 -6 +6
13. Atoms in the 3rd A column become this charge when they are ions. _____
14. Atoms in the 6th A column become this charge when they are ions. _____

15. What charge are the following atoms going to have once they become ions?

- a. Na _____
- b. P _____
- c. K _____
- d. Ca _____
- e. Ga _____
- f. I _____
- g. S _____

16. Make your own formulas for the following ions:

- a. Example Rb^{+1} and $\text{S}^{-2} = \text{Rb}_2\text{S}$
- b. Cs^{+1} and $\text{Cl}^{-1} =$ _____
- c. Mg^{+2} and $\text{Cl}^{-1} =$ _____
- d. Al^{+3} and $\text{F}^{-1} =$ _____
- e. Ca^{+2} and $\text{S}^{-2} =$ _____
- f. K^{+1} and $\text{O}^{-2} =$ _____

17. Make your own formulas for the following when they bond together: (This is just like the previous problem except you have to look up the charges of the atoms)

- a. Example Na and O = Na_2O
- b. K and N = _____
- c. Rb and S = _____
- d. K and I = _____
- e. Al and Cl = _____
- f. Ca and N = _____