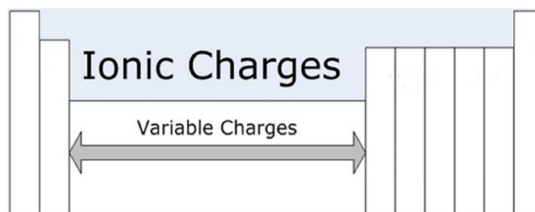


## Bonding & Formula Writing Test Review

1. Why do atoms bond?
2. What is an ionic bond? (definition)
3. What types of elements form an ionic bond?
4. What happens to the electrons in an ionic bond?
5. What is a covalent bond? (definition)
6. What types of elements form a covalent bond?
7. What happens to the electrons in a covalent bond?
8. What happens to the electrons in a metallic bond? (This causes metals to be ductile, malleable, and have luster. You should know those terms).
9. Which one of the following is a molecule (that means a covalent bond)? A) NaCl, B)  $\text{CaCl}_2$ , C)  $\text{H}_2\text{O}$ , D)  $\text{Mg}_3\text{N}_2$
10. Draw Lewis Dot Diagrams for the following atoms.
  - a. Potassium
  - b. Strontium
  - c. Aluminum
  - d. Carbon
  - e. Nitrogen
  - f. Sulfur
  - g. Bromine
  - h. Argon
  - i. Helium
11. Make sure that you know the charges for every group on the periodic table.



12. Write formulas for each combination. Be sure to reduce when necessary. If it is a transition metal, you will be told the charge, if it is a polyatomic then you can look it up if you don't know it. Make sure you reduce when possible.
  - a. Ammonium & hydroxide
  - b. Calcium & sulfate
  - c. Zinc (+2) & oxygen
  - d. Potassium & sulfur
  - e. Barium & nitrogen
  - f. Calcium & Phosphate
  - g. Lithium & phosphorus
  - h. Manganese (+2) & chlorate
  - i. Aluminum & Nitrite
  - j. Ammonium & Sulfate
13. What ions form the following compounds? (Be careful, some have been reduced.)
  - a.  $\text{Ca}(\text{CN})_2$
  - b.  $\text{AlPO}_4$
  - c.  $\text{Hg}_3(\text{PO}_4)_2$
  - d.  $\text{PbO}_2$
  - e.  $\text{CaCO}_3$
  - f.  $\text{Rb}_3\text{P}$
14. Draw the ionic transfer of electrons when calcium and phosphorus bond.
15. Draw the covalent sharing of electrons when hydrogen and sulfur bond.