Chemical Bonding Review

Chapter 7: Ionic and Metallic bonding Pages 187-203

Section 7.1 Ions Pages 187-193

Define the following:

- Valence electrons
- How to find the number of valence electrons
- Electron dot structures
- Octet Rule
- Halide Ion

Questions:

1. Why do metals tend to lose their electrons? Why do nonmetals tend to gain electrons?
2. How is a cation formed? How is an anion formed?
3. In forming a compound, atoms tend to achieve the electron configuration of a _____.
4. How many valence electrons in the following elements and draw the electron dot structure for each one:

a) sodium b) nitrogen c) calcium

Section 7.2 Ionic Bonds and Ionic Compounds Pages 194-199

Define the following:

- Ionic compounds
- Ionic bonds
- Chemical formula
- Formula unit
- Take note of questions 18,19, 20 Page 199- understand them, but we did this a lot so I don't think we need to do more of this☺

Questions:

1. Use electron dot structures to determine formulas of the ionic compounds formed when:

a) potassium reacts with iodine

b) aluminum reacts with oxygen

2. Name three properties of ionic compounds.
3. Describe the arrangement of sodium ions and chloride ions is a crystal of sodium chloride.
4. Why do ionic compounds conduct electric current when they are melted or dissolved in water?

Section 7.3 Bonding in Metals Pages 201-203

Define the following:

- Metallic Bonds
- Alloys
- Substitutional Alloy
- Interstitial Alloy

Questions:

1. How do chemists model the valance electrons in metal atoms?
2. Why are alloys more useful than pure metals?
3. What are three different packing arrangements found in metallic crystals?