Bauck's CHEMISTRY Ch. 4 Test Review

This is an optional assignment due the day of the test.

Materials: loose leaf paper, pen and/or pencil (You will be given a periodic table.)
Test date: _____
Test value: 200 points
Test format: multiple choice**;** short answer essays**;** electron dot diagrams (Lewis structures):

- ELECTRON DOT DIAGRAMS FOR ELEMENTS
  - *Write the element name.*
  - *Draw the electron dot diagram.*
  - *How many "shells" does this atom have?*
- ELECTRON DOT DIAGRAMS FOR IONS
  - *Write the name of the ion that will form.*
  - *Write how many electrons are gained or lost to form the ion.*
  - *Write the charge of the ion.*
  - *How many <u>total</u> (not valence) electrons does the neutral atom have?*
  - *How many <u>total</u> (not valence) electrons does the ion have?*
  - *Draw the electron dot diagram of the ion formed.*
- ELECTRON DOT DIAGRAMS FOR IONIC COMPOUNDS
  - *Write the ionic compound as separate dot diagrams for all the ions involved.*
  - *Use different colors, or x and o, for electrons from different elements.*
- ELECTRON DOT DIAGRAMS FOR COVALENT COMPOUNDS
  - *Write the compound dot diagram.*
  - *Use different colors, or x and o, for electrons from different elements.*

Topics to Review:

1) **Anion**—What is it? How do they form? Identify examples. Contrast with **cation.** What is the special ending for anion names?
2) **Cation**—What is it? How do they form? Identify examples. Contrast with **anion**.
3) Know the **charges** of the representative element groups ("Charge chant")
4) **Compound**—contrast with element
5) **Coordinate covalent bond**—What is this?
6) **Covalent bond**—Where is this found? Contrast the strength with **ionic bond**.
7) **Crystal lattice**—What is this? Where is this found? Relate to **salts**.
8) **Electron dot diagrams**—How are they drawn for an atom? How are they drawn for an ion? How are they drawn for ionic compounds? How are they drawn for covalent compounds? Give examples.
9) **Electron sharing vs**. **electron transfer** – relate to types of bonds
10) **Formula unit**—What is it? Where is it found? Identify examples. Contrast with **molecule**.
11) **Halide ions**—What are these?
12) **Ionic bond**—Where is this found? Contrast the strength with **covalent bond**.
13) **Molecule**—What is it? Where is it found? Identify examples. Contrast with **formula unit**.
14) **Noble Gas configuration**—What is this? How is this achieved?
15) **Octet rule**—How does this work?
16) **Properties of elements**– Why can they differ greatly when they are in a compound vs. when they are alone?
17) **Salts**—What types of compounds are these?
18) **Valence**—What is this? Relate to bonding. Relate to dot diagrams.