Chapter 6 Section Review Answer Key

Assignments:

- Section Review questions 1-14 on page 198
- Section Review questions 1-13 on page 207
- Section Review questions 1-11 on page 213

(Note: Answers for Section 2 #6 - 8 and Section 3 #6 - 7 can be found in the textbook answer key)

Section Review 1 Assignment

1. attraction forces between the electrons of one atom and the nucleus of the other atom are balanced by the repulsive force caused by the two + charged nuclei as they are forced together
2. the students are each an atom and the spring between them is a bond
3. electrons could be equally shared or one atom can provide two electrons
4. energy is released when the bond is formed
5. δ+ and δ-
6. bond type - non polar covalent, polar covalent or ionic
7. Covalent bonds are the sharing of electrons, whereas ionic bonds are the complete transfer of electrons from one atom to another. Ionic bonds are stronger.
8. Each atom has a different atomic radius - the change in number of electrons also changes the radius as the magnetic pull between nucleus and electrons is increased.
9. Atomic orbitals are the orbitals present in a single atom. Molecular orbitals are the orbitals in a molecule, formed by combining atomic orbitals, or formed from non-bonding atomic orbitals.
10. The shorter the bond length, the greater attraction meaning the stronger the bond.
11. HF > HCl > HBr > HI
12. The smallest difference between fluorine and the electronegativity of any other element is 0.6 - which is a polar covalent bond.
13. The lower the electronegativity, the better the covalent bond as the electrons are shared equally.
14. Cs-Br

Section Review 2 Assignment

1. valence electrons
2. On one side of the polyatomic ion - one side is partially negative and the other is partially negative.
3. Three pairs or six total electrons are shared by the atoms in a triple bond.
4. Resonance structures represent the multiple Lewis structures possible for a molecule.
5. 2 oxygen atoms = dioxide and three oxygen atoms = trioxide
6. see textbook answer key
7. see textbook answer key
8. see textbook answer key

9.
    a. tin tetriodide
    b. dinitrogen trioxide
    c. phosphorus trichloride
    d. carbon diselenide
10.
    a. PBr_5
    b. P_2O_3
    c. $ArBr_3$
    d. CCl_4
11. Student explanations may vary, but include that both have all eight valence electrons (four pairs).
12. Student answers will vary, but must include an explanation.
13. should be trioxide

Section Review 2 Assignment

1. valence electrons
2. linear
3. Student answers will vary, but must include that electron pairs determine shape.
4. a
5. polarity
6. see textbook answer key
7. see textbook answer key
8. Tetrahedral and non polar
9. answers will vary, but must include an explanation
10. the shape affects the properties
11. the electron pair and three unpaired electrons of nitrogen