Chapter 13 Review

P. 314 # 1-8

P. 322 # 1-8

P. 330 Vocab # 1-10

P. 331-332 Problems # 1-7

P. 314

1) b. covalent bonds

2) 4 chlorine atoms in CCl_4

3) C

4) True

5) b. atoms form chemical bonds using electrons in the outermost energy level

6) b. Boron

7) could be... N, P, As, Sb, Bi, Mc

nitrogen, phosphorus arsenic, antimony bismuth, moscovium

8) a) $\cdot\dot{\underset{\cdot}{\underset{\cdot}{Si}}}\cdot$ b. $:\ddot{\underset{\cdot\cdot}{Xe}}:$ c. $\dot{Ca}\cdot$ d. $:\ddot{\underset{\cdot\cdot}{O}}:H$ (H above O)

P. 322 # 1-8

1) b. the positive or negative charge acquired by the atom in a chemical bond.

2) boron, aluminum, gallium, indium, thallium
B, Al, Ga, In, Tl
or nihonium Nh

3) -1

4) a. the sum of the oxidation numbers must equal zero

5) False

6) c. beryllium (+2) + oxygen (-2) = Ø

7) a $NaHCO_3$ = sodium hydrogen carbonate
b. $BaCl_2$ = barium chloride
c. LiF = lithium fluoride
d. $Al(OH)_3$ = aluminum hydroxide
e. SrI = strontium iodide

8) The bond would most likely be ionic because potassium is an alkali metal + iodine is a halogen = both have strong tendencies to form ions.

P. 330 Vocab # 1-10

1) chemical formula
2) covalent bond
3) chemical bond
4) ionic bond
5) Lewis dot diagram
6) ion
7) valence electrons
8) oxidation number
9) binary compound
10) polyatomic ion

P. 331-332 Problems # 1-7

1) a. glucose C=6 H=12 O=6 $C_6H_{12}O_6$

b. calcium carbonate Ca=1 C=1 O=3 $CaCO_3$

c. aluminum oxide Al=2 O=3 Al_2O_3

d. boron hydroxide B=1 O=3 H=3 $B(OH)_3$

2) $\cdot\dot{\underset{\cdot}{\overset{\cdot}{\text{Bi}}}}\cdot$ $:\ddot{\text{Ne}}:$ $\cdot\dot{\underset{\cdot}{\overset{\cdot}{\text{Ge}}}}\cdot$ $:\ddot{\text{I}}:$ $:\ddot{\text{Sr}}:$ $:\ddot{\text{I}}:$

3) CO_2

4) c. NH_3

5) Ca = +2 Cl = -1 $CaCl_2$

6) a. NaI

b. $Al(OH)_3$

c. MgS

d. NH_4NO_3

7) a. potassium iodide

b. strontium chloride

c. potassium nitrate

d. aluminum oxide