Unit 2 Study Guide Name:

1. Use electronegativity values to determine bond types. Recall: ionic >1.7, polar covalent is between 0.5 and 1.7 and non-polar covalent is less than 0.5. Determine the bond type in these compound using values on p. 194:

a. AlF3 b. SeO2 c. IBr

2. Elements tend to react to acquire the stable electron structure of a \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ p. 207

3. Be prepared to name ionic compounds. Complete the following practice problems:

p. 233 #81

p. 233 #82

#83 from page 233 (draw chart)

4. Ionic compounds contain a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cation and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ anion p. 210

5. The charge of all ionic compounds (like CaF2) must be \_\_\_\_\_\_\_\_\_\_\_\_ p. 211

6. Be prepared to name covalent compounds. Complete the following practice problems:

p. 276 #124

p. 276 #125

7. Ionic compounds have \_\_\_\_\_\_\_\_\_\_\_\_\_\_ boiling points (p. 215) while covalent compounds have \_\_\_\_\_\_\_\_\_\_\_ boiling points compared to those of ionic substances (p. 270).

8. Covalent bonds form between atoms of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ elements. P. 241

9. Be prepared to name acids. Complete the following practice problems:

p. 274 #92 (draw chart)

10. Using your virtual lab notes, state the ability to the following to conduct electricity (put yes or no):

a. ionic compounds as solids

b. ionic compounds dissolved in water

c. metals as solids

d. covalent compounds dissolved in water

11. Identify the type of reaction represented in each equation below:

 a. S   +   O2 --------->  SO2

 b. CaCO3   +   HCl   ----------->  CaCl2   +  H2CO3

 c. KClO3 -----------> KCl   +     O2

d. Cu   +   AgNO3  -----------> Ag    +    Cu(NO3)2

e. C10H8 + O2 → CO2 + H2O

12. Be prepared to balance equations. Balance the following:

a. \_\_\_S   + \_\_\_ O2 --------->  \_\_\_SO2

 b. \_\_\_CaCO3   +  \_\_\_HCl   -----------> \_\_\_ CaCl2   +\_\_\_  H2CO3

 c. \_\_\_\_ KClO3 -----------> \_\_\_ KCl   +     \_\_\_\_O2

d.\_\_\_ Cu   +   \_\_\_AgNO3  ----------->  \_\_\_\_Ag    +  \_\_\_ Cu(NO3)2

e. \_\_\_C10H8 + \_\_\_ O2 → \_\_CO2 + \_\_\_ H2O

Honors Only:

1. Place hydrogen bonds, dipole-dipole forces, covalent bonds, and London dispersion forces (aka dispersion forces) in order from weakest to strongest. P. 411-412

2. Draw table 3 on p. 414. Use the paragraph below it to *explain why* the differences in boiling points beside it

3. Identify the molecular geometry for covalent compounds. Complete the following problems (do not worry about hybrid orbitals). Note, there are several questions about this on the test:

p. 264 #56-60

4. Be prepared to predict the products of chemical reactions. Complete:

p. 313 #88 (all)

p. p. 313 #87 (a and b only)

p. 313 # 85 (a-c only)

p. 313 #86 (d only)

p. 313 #97