**Topics Test #5: Covalent Compounds and Moles**

1) How many electrons are in a covalent bond?. (4 pt)

2) Why do polar covalent compounds usually have higher melting and boiling temperatures than nonpolar compounds? (3 pt)

3) Why do I say that nonpolar compounds are like Tylenol capsules while polar covalent compounds behave more like Tylenol capsules with orange juice stuck to it? (4 pt)

4) Define the following terms (2 pt each):

* molecule
* mole
* molar mass
* covalent bond

5) In what ways are an ionic bond different from that of a covalent bond? (4 pt)

6) What type of chemical bond does each of the following? Possible answers are metallic, covalent, polar covalent, and ionic. (1 pt each)

a) Allows the solid substance to conduct electricity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Increases brittleness of covalent compounds: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Conducts electricity only when melted or dissolved in water: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7) a) What is the molar mass of NaF? (1 pt)

b) How many moles are in 3.0 grams of AgF? (4 pt)

8) a) What is the molar mass of Cu(OH)2? (1 pt)

b) How many moles are in 5.0 grams of Cu(OH)2? (4 pt)

9) a) What is the molar mass of Hg(OH)2? (1 pt)

b) How much does 50 moles of Hg(OH)2 weigh? (4 pt)