Name _____ Date _____

Bonding Post Spring Break Review – 20 points

Electronegativity Values: ***H: 2.1 Na: 0.9 C: 3.0 N: 3.0 O: 3.5 F: 4.0 Cl: 3.0***

1. **Types of Bonds. (3 pts)** Using the electronegativity values above, indicate whether each of the following bonds would be ionic, polar-covalent or nonpolar-covalent.

   a. H—H b. Na—F c. O—H

2. **Polarity. (3 pts)** For each of the following pairs, indicate the direction of the polar bond.

   a. C—N b. N—O c. O—Cl

3. **Questions. (2 pts)** Circle the correct answer.

   a. Which type of bond involves the SHARING of electrons? IONIC or COVALENT

   b. Which type of bond typically occurs between a metal and a nonmetal? IONIC or COVALENT

4. **Structure. (4 pts)** Magnesium chloride ($MgCl_2$) is an ionic compound. Draw its packed sphere structure. Include at least **4** cations, and be sure to diagram the relative sizes of the ions.

5. **Structures. (8 pts)** Calculate the **total** number of valence electrons, draw the appropriate Lewis Structure for each molecule, and, if necessary, including the direction of the bond polarity.

Formula	# of Valence Electrons	Lewis Structure
CH_4		
NF_3		