

Name \_\_\_\_\_ Period \_\_\_\_\_

**Honors Chemistry Practice Test  
Bonding and Lewis Structures**

**Form P**

The following is a table of Pauling electronegativity values.

2.1 H																			
1.0 Li	1.5 Be											2.0 B	2.5 C	3.0 N	3.5 O	4.0 F			
0.9 Na	1.2 Mg											1.5 Al	1.8 Si	2.1 P	2.5 S	3.0 Cl			
0.8 K	1.0 Ca	1.3 Sc	1.5 Ti	1.6 V	1.6 Cr	1.5 Mn	1.8 Fe	1.8 Co	1.8 Ni	1.9 Cu	1.6 Zn	1.6 Ga	1.8 Ge	2.0 As	2.4 Se	2.8 Br			
0.8 Rb	1.0 Sr	1.2 Y	1.4 Zr	1.6 Nb	1.8 Mo	1.9 Tc	2.2 Ru	2.2 Rh	2.2 Pd	1.9 Ag	1.7 Cd	1.7 In	1.8 Sn	1.9 Sb	2.1 Te	2.5 I			
0.7 Cs	0.9 Ba		1.3 Hf	1.5 Ta	1.7 W	1.9 Re	2.2 Os	2.2 Ir	2.2 Pt	2.4 Au	1.9 Hg	1.8 Tl	1.8 Pb	1.9 Bi	2.0 Po	2.2 At			
0.7 Fr	0.9 Ra																		

**Part I:** Fill in the following table and make sure to show your work.

Molecule	Electronegativity Difference	Type of Bond
a. HCl	_____	_____
b. BaCl <sub>2</sub>	_____	_____
c. NO <sub>2</sub>	_____	_____
d. O <sub>2</sub>	_____	_____
e. CO <sub>2</sub>	_____	_____

**PART II:** Tell the type of intermolecular forces that occur between the following molecules.

a. Br <sub>2</sub>	_____	f. He	_____
b. H <sub>2</sub> O	_____	g. HF	_____
c. HF	_____	h. N <sub>2</sub>	_____
d. CH <sub>4</sub>	_____	i. CH <sub>2</sub> Cl <sub>2</sub>	_____
e. NF <sub>3</sub>	_____	j. HCl	_____

**Part III:** Questions

1. Describe how sodium chloride exists as a matrix rather than a single molecule?

2. Describe the molecular structure of water in the solid phase.

3. What is a covalent bond?

4. What is an ionic bond?

5. Describe the physical differences between ionic and covalent compounds.

**PART IV:** Draw Lewis structures for the following molecules:



**Part V:** Draw Lewis structures and indicate the type and shape for each of the following molecules:



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\_\_\_\_\_

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