

Honors Chemistry
Unit 5 Chemical Bonding Test

Name _____
Block _____ **Score** ____/60 points

- 1.) Explain how ionic bonding occurs. Which subatomic particles are involved? Use Lewis dots to show how atoms on the periodic table form an ionic bond. Label the cation and the anion formed.

- 2.) Explain how covalent bonding occurs. Which subatomic particles are involved? Use Lewis dots to show how atoms on the periodic table form a covalent bond.

- 3.) Explain why elements in the d-block of the periodic table are called Transition elements.

- 4.) Explain why the oxidation number for the alkaline earth group is different than the oxidation number for the halogen group. Which subatomic particles are involved? Give an example from each group by showing the electron configuration for the atom and the ion.

- 5.) Draw the Lewis dot structures for the following atoms:

P**Ca****Al****O****Br****Xe****K**

- 6.) Based on the electronegativity chart provided below, which two atoms will create the most polar bond? What is the difference in their electronegativity values? What type of bond is formed when they join? Explain the reason for your answer.

H 2.1						
Li 1.0	Be 1.5	B 2.0	C 2.5	N 3.0	O 3.5	F 4.0
Na 0.2	Mg 1.2	Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0

7.) Fill in the chemical names for the following compounds and molecules.

Ba_3As_2	_____	$\text{Sn}(\text{SO}_3)_2$	_____
P_4O_{10}	_____	NH_3	_____
NaHCO_3	_____	$\text{Fe}(\text{ClO}_2)_3$	_____
AuP	_____	BF_3	_____
N_2O_3	_____	H_2SO_4	_____

8.) Fill in the chemical formulas for the following compounds and molecules.

chromium II oxide	_____	potassium phosphate	_____
sulfur dibromide	_____	hydrobromic acid	_____
aluminum chloride	_____	carbon monoxide	_____
methane	_____	xenon hexafluoride	_____
copper II nitrite	_____	titanium IV oxide	_____

9) Indicate the number of atoms for each element in ammonium hydroxide.