

Name: _____

Period: _____

Seat#: _____

1) Predict the chemical formula for the ionic compound formed between the following pairs of elements.			
a. Al and F	b. K and S	c. Y and O (yttrium is usually makes a +3 ion)	d. Mg and N
2) Write the electron configuration for each of the following ions, and determine which ones possess noble-gas configurations.			Possesses Noble Gas configuration?
a. Sr ²⁺		YES	NO
b. Ti ²⁺			
c. Se ²⁻			
d. Ni ²⁺			
e. Br ⁻			
f. Mn ³⁺			
3) Explain the following trends in lattice energy. Remember... $F \propto \frac{Q_1 Q_2}{r^2}$			
a. MgO > CaS	b. LiF > CsBr	c. CaO > KF	
d. CaI ₂ > NaI	e. MgI ₂ > CaI ₂	f. Na ₂ O > K ₂ O	
4) Arrange GaP, BaS, CaO and RbCl in order of increasing lattice energy. Explain why you put them in that order.			

Dougherty Valley HS Chemistry - AP
Bonding – Ionic Bonding

5) Arrange InAs, KBr, LiCl, SrSe, and ZnS in order of decreasing lattice energy. Explain why you put them in that order.

6) Rank the following compounds below from lowest to highest electronegativity differences between bonds AND then rank them again from lowest to highest overall size of the dipole moment of the entire compound.
CsF, NaCl, MgCl₂, CH₄

Electronegativity Difference of Bonds

Dipole moment of Entire Compound

7) Use the following Venn diagram to explain the difference between covalent, ionic, and metallic bonds.

