**Dougherty Valley HS AP Chemistry**

**WORKSHEET #4**

**Bonding – Ionic**

**Name: Date: Period: Seat #:**

|  |
| --- |
| 1. Predict the chemical formula of the ionic compound formed between the following pairs of elements:
 |
| * 1. Al and F
 |
| * 1. K and S
 |
| * 1. Y and O
 |
| * 1. Mg and N
 |

|  |
| --- |
| 1. Write the electron configuration for each of the following ions, and determine which ones possess noble-gas configurations:
 |
| * 1. Sr2+
 |
| * 1. Ti2+
 |
| * 1. Se2—
 |
| * 1. Ni2+
 |
| * 1. Br—
 |
| * 1. Mn3+
 |

|  |
| --- |
| 1. Explain the following trends in lattice energy:
 |
| * 1. MgO > CaS
 |
| * 1. LiF > CsBr
 |
| * 1. CaO > KF
 |
| * 1. CaI2 > NaI
 |
| * 1. MgI2 > CaI2
 |
| * 1. Na2O > K2O
 |

|  |
| --- |
| 1. 4. Arrange GaP BaS CaO and RbCl in order of increasing lattice energy. Explain why.
 |

|  |
| --- |
| 1. Arrange InAs, KBr, LiCl, SrSe, and ZnS in order of decreasing lattice energy. Explain why.
 |

|  |
| --- |
| 1. Rank the following elements below by the greatest electronegativity difference between bonds AND polarity of molecule?

CsF, NaCl, MgCl2, CH4 |
| Electronegativity diff | Polarity |

1. Use the following VENN diagram to explain the difference between covalent, ionic, and metallic bonds: