

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

**Quiz 2 – Formulas of Ionic Compounds**

20 Points

The following is a chart showing the group and valance electrons w/ Lewis Dot Structures

| Group Number                           | 1A<br>1 | 2A<br>2 | 1B –<br>10B | 3A<br>13 | 4A<br>14 | 5A<br>15 | 6A<br>16 | 7A<br>17 | 8A<br>18 |
|----------------------------------------|---------|---------|-------------|----------|----------|----------|----------|----------|----------|
| Valance<br>Electrons (e <sup>-</sup> ) | 1       | 2       | 2           | 3        | 4        | 5        | 6        | 7        | 8        |
| Ion Charge                             | +1      | +2      | Var.        | +3       | +4       | -3       | -2       | -1       | 0        |

Complete the following chart to find the charges and number of atoms for each of the ionic compounds shown below

| Metal            | +<br>— | Non-Metal | -<br>— | a | +  | b | -  | = 0 | X                | a | Y | b |
|------------------|--------|-----------|--------|---|----|---|----|-----|------------------|---|---|---|
| Fe <sup>2+</sup> | +2     | P         | -3     | 3 | +2 | 2 | -3 | = 0 | Fe <sup>2+</sup> | 3 | P | 2 |
| W <sup>6+</sup>  | +6     | S         | -2     | 1 | +6 | 3 | -2 | = 0 | W <sup>6+</sup>  | 1 | S | 3 |

Answer the following questions based on the in class notes and presentation

| For the following ions determine the type of element that forms the ion and charge |              |                 |
|------------------------------------------------------------------------------------|--------------|-----------------|
| Ion Type                                                                           | Element Type | Ion Charge      |
| Anion                                                                              | Non - Metal  | Neg. (-) Charge |
| Cation                                                                             | Metal        | Pos. (+) Charge |

Element Types: Metal, Non-Metal, Rare Earth Element, Ion Charge: Positive, Negative, Neutral