

Name: _____ Date: _____ Period: _____

Graded problems are worth 2 points each. This assignment is graded out of **26** points.

Write the **chemical formulas** for compounds formed from the following pairs of ions. (This space provided for scratch work.)

1) Mg^{2+}, Cl^{-}	
2) Na^{+}, I^{-}	
3) Graded. Li^{+}, Cl^{-}	
4) Graded. K^{+}, O^{2-}	
5) Graded. Al^{3+}, Cl^{-}	
6) Graded. Al^{3+}, S^{2-}	

Name the following ionic compounds. (This space provided for scratch work.)

7) MgO	
8) NaCl	
9) Graded. KBr	
10) Graded. CaI_2	
11) Graded. BeF_2	
12) Graded. Al_2O_3	

Write the chemical formulas for the following ionic compounds. (This space provided for scratch work.)

13) Sodium Bromide	
14) Lithium Sulfide	
15) Graded. Calcium Iodide	
16) Graded. Sodium Oxide	
17) Graded. Potassium Sulfide	
18) Graded. Aluminum Fluoride	
19) Graded. Gallium Sulfide	

Selected Answers

Write formulas for compounds formed from the following pairs of ions.

1) $\text{Mg}^{2+}, \text{Cl}^{-}$	MgCl_2
2) $\text{Na}^{1+}, \text{I}^{-}$	NaI

For these problems, remember that you can use the "criss-cross" method: make the charge number of one ion the subscript of the other one in the chemical formula. Don't forget to reduce the subscripts, or that "1" is never written as a subscript.

Name the following ionic compounds.

20) MgO	Magnesium Oxide
21) NaCl	Sodium Chloride

The name of the cation (positive ion) comes first. For this part of the name, we use just the name of the element that the ion comes from.

The name of the anion (negative ion) comes second. For this part, we use the "root" of the element's name and then add the "-ide" suffix to it.

Write the chemical formulas for the following ionic compounds.

22) Sodium Bromide	NaBr
23) Lithium Sulfide	Li_2S

This is tricky only because the name of the compound does not tell you the number of each ion in the compound. You have to figure that out using the periodic table.

Sodium Bromide, for example, is made of Sodium and Bromine (notice we have to undo the naming from "Bromide" to "Bromine"!). Using the periodic table (and the oxidation numbers) we can figure out that the sodium ion will have a formula of Na^{1+} , and that the bromine ion will have a chemical formula of Br^{1-} . Once we have the chemical formulas of the ions, we use the same method as in questions 1 and 2 of this assignment to get the formula of the ionic compound.