Exercise 6.3a

Ionic Formula Writing

Name: _____

Date: _____ Per: ____

Ionic formulas represent ratios in which two ions exchange electrons. The cation(s) will always have electrons stripped away by the anion(s). Writing a correct ionic formula is about accounting for the exchange of these electrons. If the formula is written correctly, the total charge of the cation(s) will be equal to the total charge of the anion(s). The net charge of the formula unit will be zero.

- Write the formulas for the ions that make the compound, with their respective charges. Cations are always listed first.
- Find the lowest common multiple of the ions' charges. This represents the number of electrons exchanged.
- Use subscripts to show how many of each ion are necessary for the exchange to take place. If only one ion is required, no subscript is required.
- If more than one polyatomic ion is required, place the formula of the polyatomic ion in parentheses and place the subscript behind the parentheses.
- The final formula for an ionic compound should have no charges written.
- Examples: Mg^{2+} & Cl^- (LCM of 2 & 1 is 2, so 2 e^- are exchanged. Mg^{2+} loses 2 e^-, so only one is required. Cl^- gains only 1 e^- so 2 are required.) → $MgCl_2$
  Al^{3+} & OH^- (LCM of 3 & 1 is 3, so 3 e^- are exchanged. Al^{3+} loses 3 e^-, so only one is required. OH^- gains only 1 e^- so 3 are required.) → $Al(OH)_3$

DIRECTIONS: *In each box write the formula of the compound that would result from the combination of the cation at left and the anion at the top. Make sure the compound has a net charge of 0 (is electrically neutral).*

Anion / **Cation**	bromide Br^-	nitrate NO_3^-	hydroxide OH^-	oxide O^{2-}	sulfate SO_4^{2-}	phosphate PO_4^{3-}	hydrogen carbonate HCO_3^-	chlorate ClO_3^-	acetate $C_2H_3O_2^-$
potassium K^+									
silver Ag^+									
ammonium NH_4^+									
mercury (I) Hg_2^{2+}									
mercury (II) Hg^{2+}									
calcium Ca^{2+}									
copper (II) Cu^{2+}									
iron (II) Fe^{2+}									
iron(III) Fe^{3+}									
antimony Sb^{3+}									