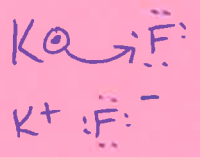
Lewis Dot Practice

Name Key

Block ____ ***Date*** _____

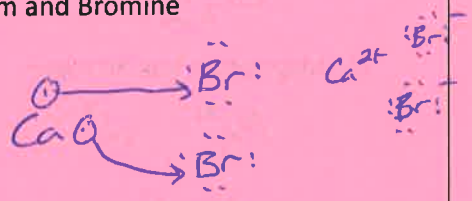
Use electronegativity to predict the type of bond that will occur between the following elements and use Lewis Dot structures (including charges) to show how they will bond together. Write the resulting formula below your diagram.

1) Potassium and Fluorine



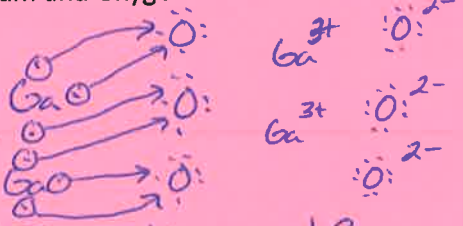
ΔEN: 4.0 - 0.8 = 3.2
Element w/ greater pull on e- : F
Formula: KF

2) Calcium and Bromine



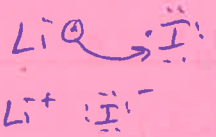
ΔEN: 2.8 - 1.0 = 1.8
Element w/ greater pull on e- : Br
Formula: $CaBr_2$

3) Gallium and Oxygen



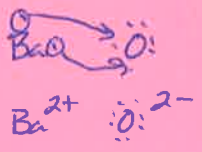
ΔEN: 3.5 - 1.6 = 1.9
Element w/ greater pull on e- : O
Formula: Ga_2O_3

4) Iodine and Lithium



ΔEN: 2.5 - 1.0 = 1.5
Element w/ greater pull on e- : I
Formula: LiI

5) Oxygen and Barium



ΔEN: 3.5 - 0.9 = 2.6
Element w/ greater pull on e- : O
Formula: BaO

6) Magnesium and Nitrogen

ΔEN: 3.0 - 1.2 = 1.8
Element w/ greater pull on e- : N
Formula: Mg_3N_2

7) Other than calculating ΔEN, what is another way you can predict the type of bond that will occur between 2 atoms?

Ionic = Metal + Non-Metal
Covalent = Non-Metal + Non-Metal

Use your knowledge of ionic charges to predict the formulas for compounds made from the following ions/polyatomic ions.

Predict Charges → Criss-Cross Charges → Write Formula

1) Calcium and Phosphorous

Ca_3P_2

2) Magnesium and Nitrogen

Mg^{2+} N^{3-}

Mg_3N_2

3) Oxygen and Sodium

Na^{1+} O^{2-}

Na_2O

4) Ammonium and Sulfur

NH_4^+ S^{2-}

$(NH_4)_2S$

5) Aluminum and Hydroxide

Al^{3+} OH^-

$Al(OH)_3$

6) Iron (II) and Sulfate

Fe^{2+} SO_4^{2-}

$FeSO_4$ (reduce)

7) Copper (I) and Phosphate

Cu^{1+} PO_4^{3-}

Cu_3PO_4

8) Vanadium (III) and Acetate

V^{3+} $C_2H_3O_2^-$

$V(C_2H_3O_2)_3$