WLHS / Conc Chem

Name_____ Date_____ Per_____

WORKSHEET: Chemical Bonding – Ionic & Covalent!

REMEMBER…

Ionic Bond between a Metal and Non-Metal (M + NM)
Covalent Bond between a Non-Metal and Non-Metal (NM + NM)

PART 1: Determine if the elements in the following compounds are metals or non-metals. Describe the type of bonding that occurs in the compound.

Compound	Element 1 (metal or non-metal?)	Element 2 (metal or non-metal?)	Bond Type
NO_2	N = non-metal	O = non-metal	covalent
NaCl			
SO_2			
PI_3			
$MgBr_2$			
CaO			
H_2O			
K_2O			
AlF_3			
O_2			
$CuCl_2$			
NO_2			
CO_2			
HF			
Rb_2S			
NBr_3			
Fe_2O_3			
CCl_4			

PART 2: Use Lewis dot structures to show the ionic bonding in the following pairs of elements. Show the transfer of electrons using arrows. Write the correct chemical formula for the ionic compound that forms.

1) barium oxide (Ba and O)

Formula:_____

2) calcium chloride (Ca and Cl)

Formula:_____

3) aluminum oxide (Al and O)

Formula:_____

4) sodium oxide (Na and O)

Formula:_____

5) sodium nitride (Na and N)

Formula:_____

6) magnesium phosphide (Mg and P)

Formula:_____

PART 3: Use Lewis dot structures to show the covalent bonding in the following pairs of elements. Once you have determined the structure for the molecule, write its structural formula in the space provided; use a dash to represent a shared pair of electrons, and dots to show unshared electrons.

1) nitrogen triiodide (NI_3)

Show work here…HINT: nitrogen is in the middle!

Final Answer:

2) carbon tetrabromide (CBr_4)

Show work here…HINT: carbon is in the middle!

3) dihydrogen monoxide (H_2O)

Show work here..HINT: oxygen is in the middle!