Name: ANSWERS Date:_____ Per.:_____

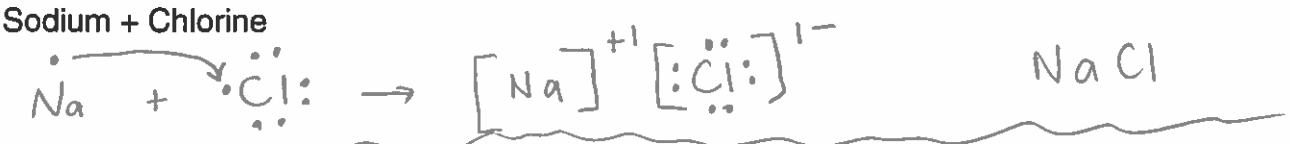
Ionic Bonds Practice

1. Fill in the missing information on the chart.

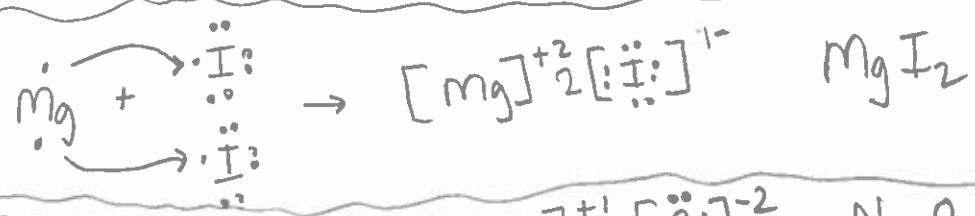
Element	# of Protons	# of Electrons	# of Valence Electrons
Sodium	11	11	1
Chlorine	17	17	7
Beryllium	4	4	2
Fluorine	9	9	7
Lithium	3	3	1
Oxygen	8	8	6
Phosphorus	15	15	5

2. For <u>each</u> of the following ionic bonds:
   - Write the symbols for each element.
   - Draw a Lewis Dot structure for the <u>valence shell</u> of each element.
   - Draw an arrow (or more if needed) to show the transfer of electrons to the new element.
   - Write the resulting chemical formula.
   - Write the electron configurations for each ion that is formed. Ex. $H^{1+} = 1s^2$

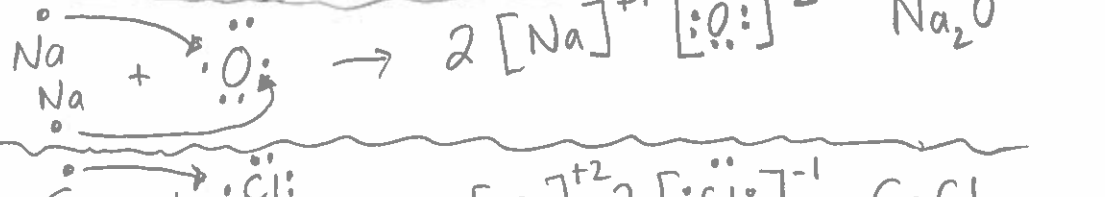
a) Sodium + Chlorine



b) Magnesium + Iodine

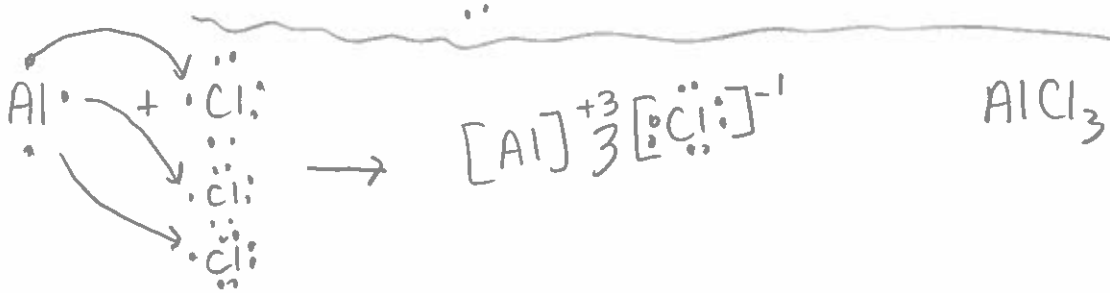


c) Sodium + Oxygen



d) Calcium + Chlorine

e) Aluminum + Chlorine



Name: ANSWERS Date:_____ Per.:_____

Covalent Bond Practice

1. Fill in the missing information on the chart.

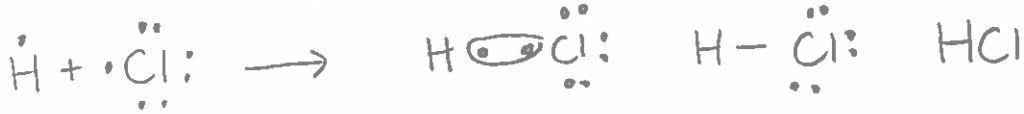
Element	# of Protons	# of Electrons	# of Valence Electrons	# of electrons to fill outer shell.
Carbon	6	6	4	4
Hydrogen	1	1	1	1
Chlorine	17	17	7	1
Helium	2	2	2	0
Phosphorus	15	15	5	3
Oxygen	8	8	6	2
Sulfur	16	16	6	2
Nitrogen	7	7	5	3

2. For each of the following covalent bonds:
- Write the symbols for each element.
- Draw a Lewis Dot structure for the valence shell of each element.
- Rearrange the electrons to pair up electrons from each atom.
- Draw circles to show the sharing of electrons between each pair of atoms
- Draw the bond structure using chemical symbols and lines. Use one line for each pair of electrons that is shared.
- Write the chemical formula for each molecule.

a) Hydrogen + Hydrogen

b) Chlorine + Chlorine

c) Hydrogen + Chlorine



d) Hydrogen + Oxygen

e) Nitrogen + Hydrogen

f) Carbon + Hydrogen