

Name _____

Date _____

Bonding Test

1. Ionic Bonds result when electrons are _____ between two atoms.
Covalent Bonding result when electrons are _____ between two atoms.

2. True or False (Circle one). Covalent bonds take place between a metal and a non-metal while ionic bonds take place between two non-metals.

3. Show how the following pairs of elements form ionic compounds (use dot diagrams and arrows). Also write the formula for the ionic compound.

Ca & N

Al & S

Formula: _____

Formula: _____

4. A single bond involves ____ electrons. A double bond involves ____ electrons. A triple bond involves ____ electrons. A lone pair of electrons involves ____ electrons. Each type of bond results in ____ electron domain(s). (Each answer is a #)

5. True or False (Circle one). The octet rule states that when atoms participate in covalent bonding they tend to possess 6 electrons.

6. Water is a polar molecule. Which atom(s) possesses a partial negative charge (which is more electronegative)?

7. At room temperature substance A is a gas, substance B is a liquid, and substance C is a solid. Which substance experiences the greater intermolecular forces?

- a) Substance A b) Substance B c) Substance C d) Cannot determine

8. If the substances have the same molecular size, which substance is more polar?

- a) Substance A b) Substance B c) Substance C d) Cannot determine

9. Using the back of this sheet, count the number of total electrons of the molecule and draw the Lewis structure for the following molecules accurately showing all bonds and lone electron pairs:



BONUS: NH_4^{+1}

#) Formula	Lewis Structure	Total # of e ⁻ domains	E.D.G. (no pic necessary)	# of bonding domains	# of non- bonding domains	3-D Structure	Molecular Geometry	Approx Bond Angle	Polar Bonds? Dipole Moment? Yes or No?	IMFs Exhibited
PI ₃									_____	
N ₃ ⁻¹									_____ _____	
SeO ₃									_____ _____	
CCl ₄									_____ _____	
SIF ₂									_____ _____	
NH ₄ ⁺¹									_____ _____	