						Ele	ectror	negati	vity T	able:							
H 2.1																	Не
Li 1.0	Be 1.5											B 2.0	C 2.5	N 3.0	0 3.5	F 4.0	Ne
Na 0.9	Mg 1.2							100				AI 1.5	Si 1.8	P 2.1	S 2.5	CI 3.0	Ar
0.8	Ca 1.0	Sc 1.3	Ti 1.5	V 1.6	Cr 1.6	Mn 1.5	Fe 1.8	Co 1.8	Ni 1.8	Cu 1.9	Zn 1.6	Ga 1.6	Ge 1.8	As 2.0	Se 2.4	Br 2.8	Kr 3.0
Rb 0.8	Sr 1.0	Y 1.2	Zr 1.4	Nb 1.6	Mo 1.8	Tc 1.9	Ru 2.2	Rh 2.2	Pd 2.2	Ag 1.9	Cd 1.7	In 1.7	Sn 1.8	Sb 1.9	Te 2.1	2.5	Xe 2.6
Cs 0.7	Ba 0.9	La 1.1	Hf 1.3	Ta 1.5	W 1.7	Re 1.9	0s 2.2	lr 2.2	Pt 2.2	Au 2.4	Hg 1.9	Ti 1.8	Pb 1.8	Bi 1.9	Po 2.0	At 2.2	Rn 2.4
Fr 0.7	Ra 0.7	Ac 1.1	Unq	Unp	Unh	Uns	Uno	Une									
Се	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Но	Er	Tm	Yb	Lu	]			
1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2				
Th 1.3	Pa 1.5	1.7	Np 1.3	Pu 1.3	Am 1.3	2 Cm	1.3	Cf 1.3	1.3	Fm 1.3	Md 1.3	No 1.3	Lr				

- 1. What does it mean to say a bond is **polar**?
- 2. How does a **polar** covalent bond differ from a **nonpolar** covalent bond?
- 3. How do electronegativity values help us determine the type of bond created?

4. For each of the following molecules, determine if it is <u>non-polar covalent</u>, <u>polar covalent</u>, or <u>ionic</u>. Show your work by listing the electronegativities of each element in the bond.

Molecule	Electronegativity Values	Difference in Electronegativity	Bond Type
P – Cl	H:	,	
	Cl:		
Cl - Cl	Cl:		
	Cl:		
Ca – O	Ca:		
	O:		

5.	For each of the following sets of elements, identify the element expected to be most electronegative (EN) and
	which is expected to be least <b>electronegative (EN)</b> .

a. K, Sc, Ca most EN=\_\_\_\_ least EN=\_\_\_\_

**b.** Br, F, At most EN= \_\_\_\_\_ least EN=\_\_\_\_

**c.** C, O, N most EN= \_\_\_\_\_ least EN=\_\_\_\_

c. H—F				
are bonded in th ionic. Tell which	e following moled	cules. Then tell whater share of the b	nether the bond is conding electron	ate the EN difference for the atoms that son nonpolar covalent, polar covalent, or solutions. In your drawing, show which atom is
<u>Molecule</u>	EN Difference	Type of Bond	Atom with greater EN	Electron Dot Structure (Rough Draft) Add Bond Dipoles
$PCl_3$				
NH <sub>3</sub>				
H <sub>2</sub> O				
Br <sub>2</sub>				
NI <sub>3</sub>				

7. The bonds between the following pairs of elements are covalent. Arrange them according to polarity, naming

the most polar bond first.

a. H—Cl

b. H—C

What questions do you still have about bond polarity?