

K	C	A	T
	10	25	12

/47 = %

Name: \_\_\_\_\_

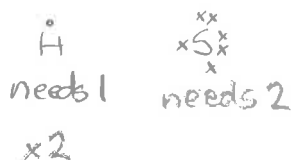
SCH 4C Bonding Quiz

- For each of the following pairs of elements:
  - determine if each pair of elements will form ionic or covalent bonds (consider whether that atoms are metallic or ionic)
  - if ionic:
    - draw in extra atoms if necessary
    - add electrons to show the neutral atoms electron configuration
    - add arrows to show how the electron will move
    - draw the resulting ions, complete with empty or full valence shell, brackets and charge
    - chemical formula
    - be sure to use different symbols for the electrons of different elements
  - covalent:
    - draw a good diagram with extra atoms as needed to show how sharing in covalent bonds works
    - add circles to show the satisfied octets or duets in the case of helium like elements
    - state the type of covalent bonds (i.e. single, double and how many)
    - show the chemical formula

H with S

$$\Delta EN = 2.58 - 2.20 = 0.38$$

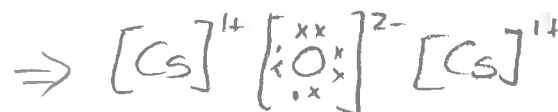
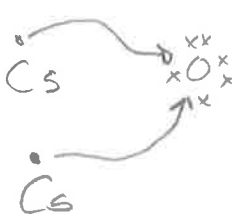
$\therefore$  covalent



Cs with O

$$\Delta EN = 3.44 - 0.79 = 2.75$$

$\therefore$  ionic



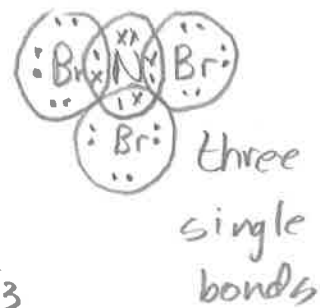
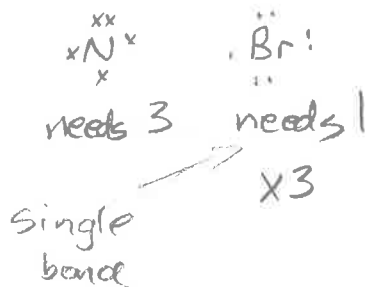
K	C	A	T
	4	6	

N with Br

$$\Delta EN = 3.04 - 2.96$$

$$= 0.08$$

covalent

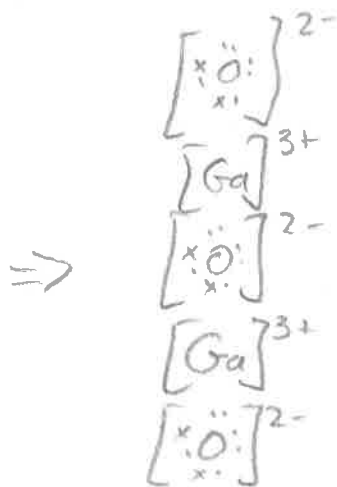
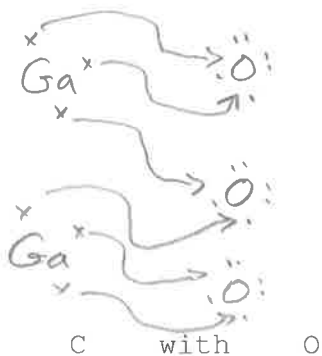


Ga with O

ionic

$$\Delta EN = 3.44 - 1.81$$

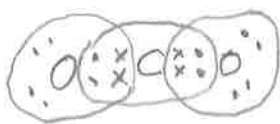
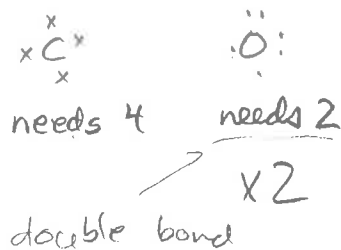
$$= 1.63$$



$$\Delta EN = 3.44 - 2.55$$

$$= 0.89$$

covalent



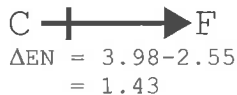
two double bonds



K	C	A	T
	6	9	

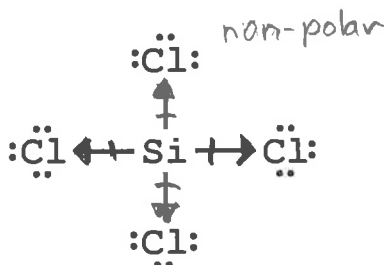
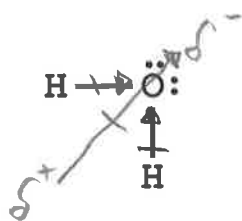


2. For each of the following pairs of atoms, write the electronegativity values below each atom and draw in the correct bond polarization

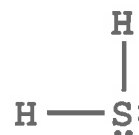


/10A

3. For each of the following stick structures, add the correct bond polarizations, determine the net molecular polarization and add  $\delta^+$  and  $\delta^-$  as appropriate. If the bond polarizations cancel out, simply write "no net molecular polarization, therefore non-polar"

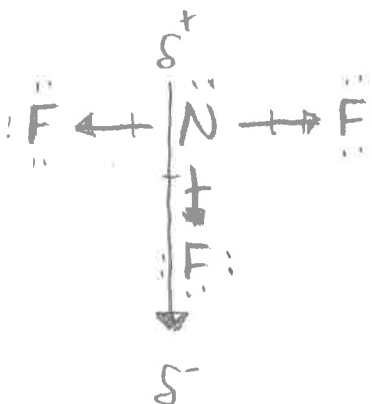
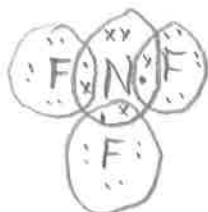


non-polar



2.20                  2.58                  /6T

4. Draw a lewis dot diagram for the covalent bonding you would expect between nitrogen and fluorine. Then draw the corresponding stick structure and complete as in question #3.



/6T

K	C	A	T
		10	12