

25 = 20

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

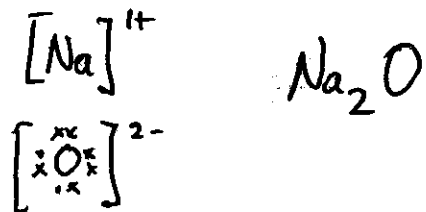
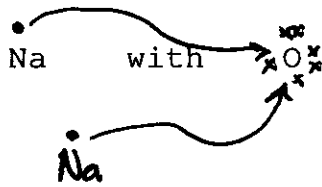
SCH 4C Bonding Quiz

1. For each of the following pairs of elements:
- a) determine if each pair of elements will form ionic or covalent bonds (consider whether that atoms are metallic or ionic), also do a  $\Delta EN$  calculation.
- b) if ionic:

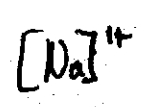
- show neutral lewis dot diagrams
- add arrows to show how the electron will move
- draw in extra atoms if necessary
- draw the resulting ions, complete with empty or full valence shell, brackets and charge
- chemical formula
- be sure to use different symbols for the electrons of different elements

a) if covalent:

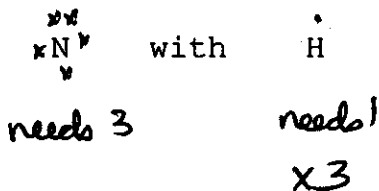
- draw a good diagram with extra atoms as needed to show how sharing in covalent bonds works
- add circles to show the satisfied octets or duets in the case of helium like elements
- state the type of covalent bonds (i.e. single, double and how many)
- show the chemical formula



$\Delta EN = 3.44 - 0.93$   
 $= 2.51$



5



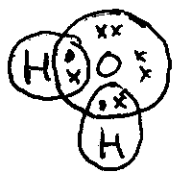
three single bonds

$\text{NH}_3$

$\Delta EN = 3.04 - 2.20$   
 $= 0.84$

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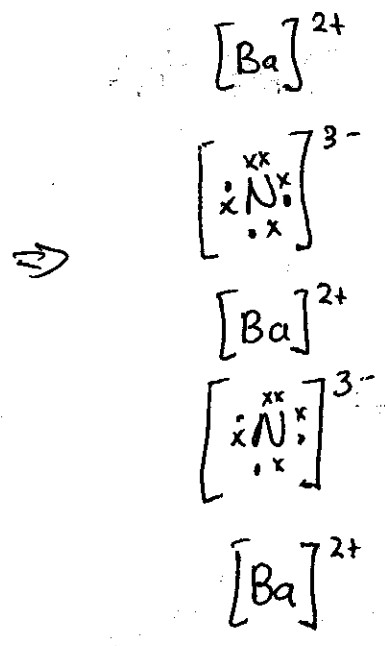
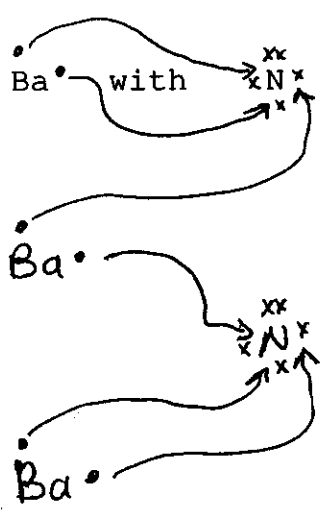
$\cdot\text{H}$  with  $\overset{\times\times}{\underset{\times}{\text{O}}}$   
 needs 1 needs 2  
 x 2



two single bonds  
 $\text{H}_2\text{O}$

$\text{EN} = 3.44 - 2.20$   
 $= 1.24$

5

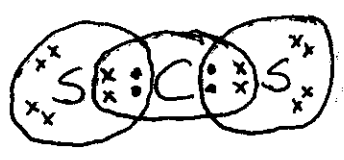


$\text{Ba}_3\text{N}_2$

$\text{EN} = 3.04 - 0.89$   
 $= 2.15$

5

$\cdot\text{C}$  with  $\overset{\times\times}{\underset{\times}{\text{S}}}$   
 needs 4 needs 2  
 x 2



two double bonds  
 $\text{CS}_2$

$\text{EN} = 2.58 - 2.55$   
 $= 0.03$

5