

• Which of the following would have the largest radius?

- C
- N
- O

less net nuclear attraction, fewer protons.

• Which of the following pairs are allowed.

NA  $n=3$    $l=3$   $m_l = -3$   $m_s = 0.5$

NA  $n=5$   $l=2$    $m_l = -3$   $m_s = 0.5$

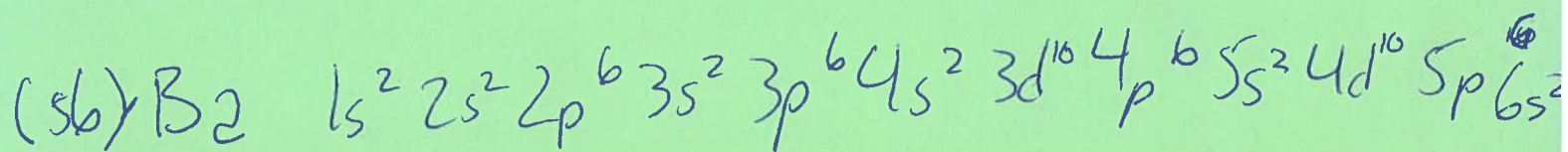
NA  $n=1$   $l=0$   $m_l = 0$    $m_s = 1$

~~NA~~  $n=1$   $l=0$   $m_l = 0$   $m_s = 0.5$

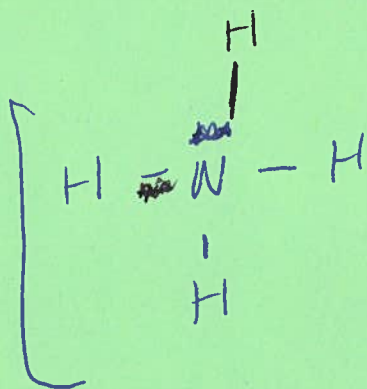
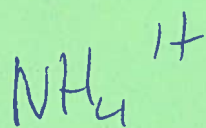
• Electron configuration

• (22) Ti  ~~$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^2$~~   
 $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^2$

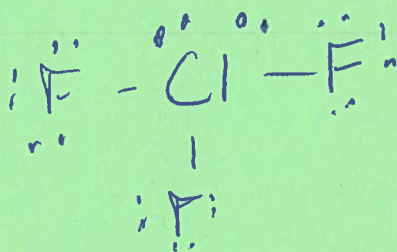
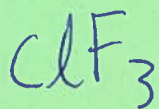
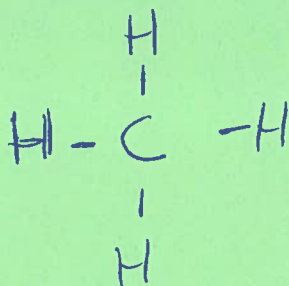
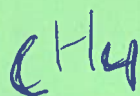
• (16) S  $1s^2 2s^2 2p^6 3s^2 3p^4$



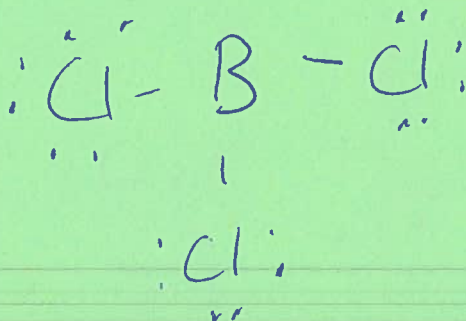
# Lewis Diagrams.

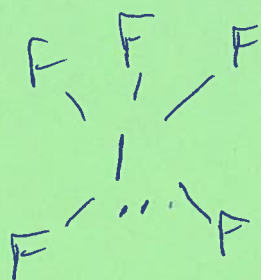
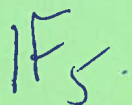


+1 electrons 5 + 4 - 1 = 8  
 needed 8 + 8 = 16  
 bp = 16 - 8 = 8 ÷ 2 = 4  
 lp = 8 - 8 = 0



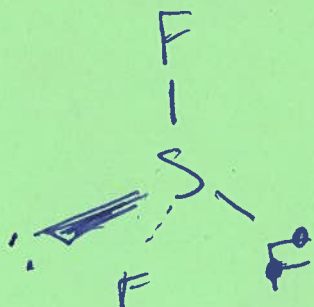
7 + 3(7) = 28  
~~8 + 3(8) = 32~~  
~~5 + 3(5) = 20~~  
 28 - 6 = 22 ÷ 2 = 11



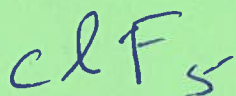


42 available electrons (7)6  
 $42 - 10 = 32 \div 2 = 16$

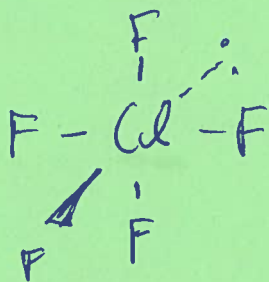
Sketch the molecular structure.



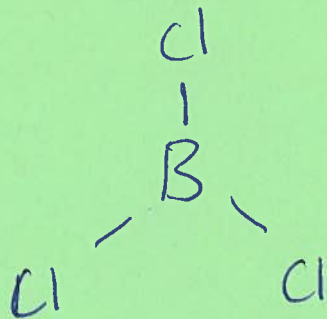
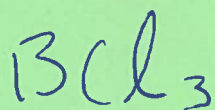
Bent



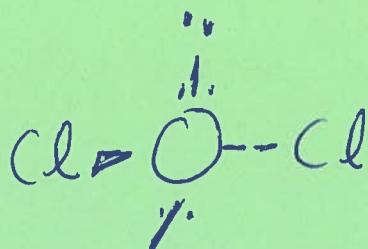
$42 - 10 = 32 \div 2 = 16$   
(electrons) (bonds) lp



Square  
Pyramidal



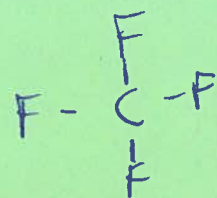
Trigonal  
planar



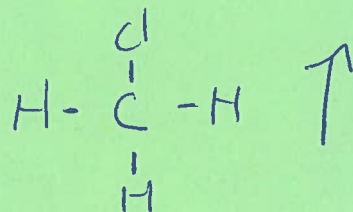
Bent.

$(+0.3) \quad | \quad (-0.3)$

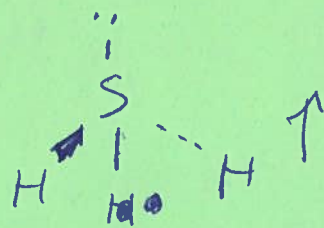
$CF_4$  non-polar



$CH_3Cl$  polar, tetrahedral

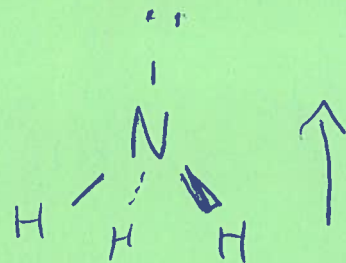


$H_2S$  ~~polar~~ polar, bent

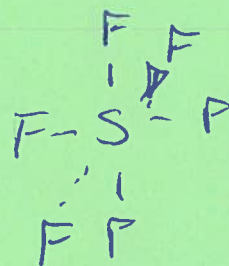


$CBr_2$   $\ddot{B} - \overset{\cdot\cdot}{C} = \overset{\cdot\cdot}{Br}$ , non-polar.

$NH_3$  polar



$SF_6$  non-polar, octahedral



$H_2O$  polar, bent  
(net being pulled towards O)

