

Ch10/ PowerPoint Study-1-Molecular Geometry Name:

Answer these questions as you are watching the videos. They are due in class.

These questions are not just for you to answer but also to prepare you for the exam.

Make sure you understand what you are writing and not just copy from the text book. Show all work.

In each case, predict (a) the shape of the molecule and b) the bond angle. Follow the strategy:

- 1) Write the Lewis structure – make sure you show ALL the electrons.
- 2) Count the number of electron “groups” on the central atom (underlined) – a single bond, double bond, triple bond and one lone pair are each one group. So four single bonds are four electron groups; three single bonds and one lone pair are also four electron groups – see the power point for all options.
- 3) From the power point table, identify which “geometry” the central atom follows.
- 4) Write the AXE formula etc as asked in the table below.
- 5) Do g) after you finish learning about polarity of molecules.

Do all three, step by step.

Molecule →	(1) <u>O</u> F ₂	(2) H ₂ <u>C</u> O	(4) <u>B</u> F ₃
a) Lewis structure			
b) Electron groups on central atom.			
c) AXE formula			
d) Electronic geometry on the central atom			
e) Bond angle associated with the geometry			
f) Shape of the molecule			
g) Polar (yes/no)			