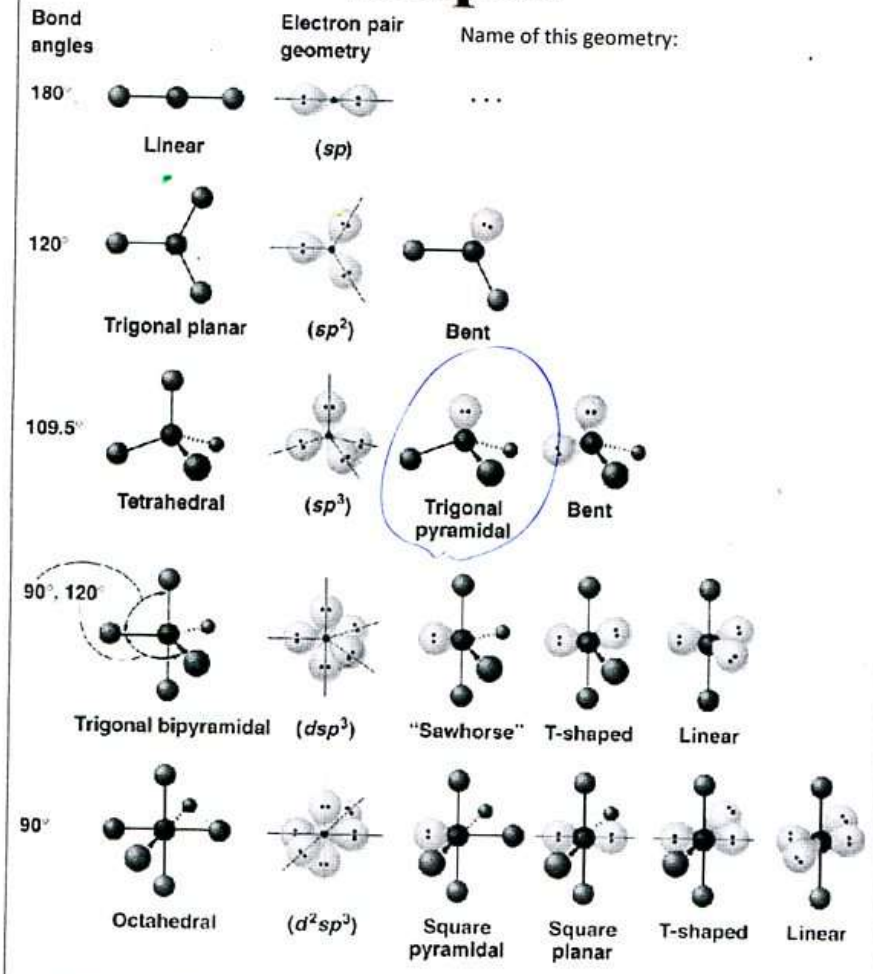
Shapes!



PURPOSE: FIND SHAPE NAMES OF LEWIS DOT MOLECULES

WARMUP Draw the neutral Lewis Dot ATOM for each:

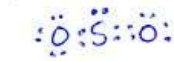
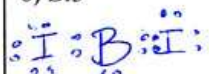
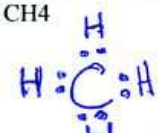
CARBON BROMINE SILICON BARIUM

Draw the Lewis dot of CH_2O

$4+1+1+6=12e^-$

MUST ADD e^- TWO AT A TIME (NEVER SINGLES)

c. Next, place the element symbols on your drawing first, putting in the middle, any element that there are (few of / lots of)
d. Now add electron dots (one at a time / two at a time) to bond the atoms together
e. Add any leftover (protons / electrons) as **lone pairs**
f. Check that each atom is stable and follows the (trio / quartet / octet) rule.
g. If you ran out of e-, you should erase some lone pairs and turn them into (single / double) bonds.

1) NF3	2) O2	3)CO	4)PH3
5)SO2  your chart calls this "BENT" shape	6) BI3  CHART SHAPE IS "TRIGONAL PLANER"	7) NBr3  "TRIGONAL PYRAMIDAL"	8) CH4  TETRAHEDRAL!
9)CH3OH (C central)	10) C2H6	11)SiF4	12) CH2Cl2

HINTS FOR HOW TO TELL SHAPE

[even though we weren't asked to find shape of the molecules above, I have solved their shapes as examples to help you with the back page of homework tonight. By looking at my answers here it may help you solve your h.w.]

Ms McParland Classwork + Homework

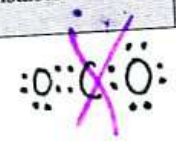
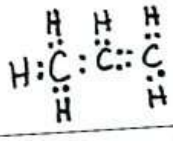
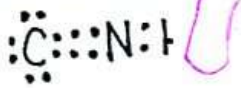
CλeMis+ry: http://genest.weebly.com

Stop in for help every day at lunch and Tues,&Thurs after school!

Name_____

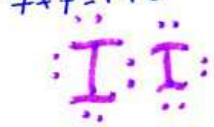
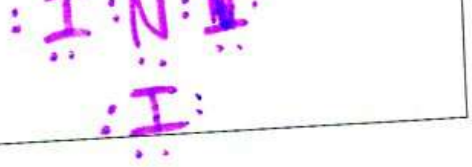
Period_____

1. Fill in the table

Circle atoms that are stable, cross out atoms that are unstable	Either write 'stable' or redraw the same letters in the same arrangement but with any number of e- that will make the atoms stable	Circle atoms that are stable, cross out atoms that are unstable	Either write 'stable' or redraw the same letters in the same arrangement but with any number of e- that will make the atoms stable
 		 	

2. *Complete each step with the correct word or words.*
In class we learned that the steps for drawing a Lewis Structure of a molecule are:
   a. First, you total up the number of valence _____ on all of the atoms of the formula.
   b. Then, when totaling up the e-, assume that each atom is (charged / neutral)
   c. Next, place the element symbols on your drawing first, putting in the middle, any element that there are (few of / lots of)
   d. Now add electron dots (one at a time / two at a time) to bond the atoms together
   e. Add any leftover (protons / electrons) as **lone pairs**
   f. Check that each atom is stable and follows the (trio / quartet / octet) rule.
   g. If you ran out of e-, you should erase some lone pairs and turn them into (single / double) bonds.

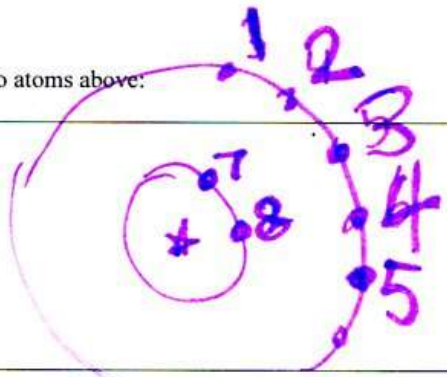
3. Draw a stable Lewis Dot structure for each molecule:

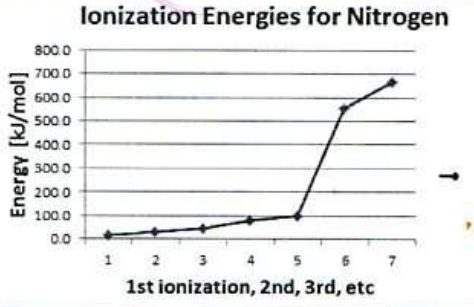
I_2 	OF_2 
CO_2 	NI_3 

4. Rewrite the following Noble Gas Abbreviations in the longer version of electron configuration ($1s^2\ 2s^2$ etcetera)
   a. $[Ne]3s^2 3p^3$
   b. $[He]2s^1$
   c. Write the Lewis Dot symbol for each of the two atoms above:

SKIP

5. In the white box at right sketch Bohr Orbit diagram in a cartoon style similar to the one shown at left but make it different in two ways:
   - Make it a sketch for the nitrogen atom with the ionization energy graph shown here
   - where each electron should be, write a number that matches each of the numbered ionizations from the graph below





6. What is the largest element in Period 3? Sodium

7. What element is the smallest nobel gas? Helium

8. Which halogen has the **second** highest electronegativity? Chlorine

9. Draw a stable Lewis Dot structure for each molecule:

H_2S SKIP	N_2
HCl SKIP	F_2