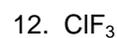
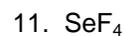
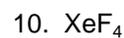
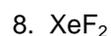


AP Chemistry
Pairs/Check: Molecular Shapes and Polarity

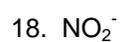
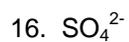
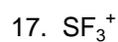
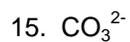
- I. Complete the "Determining Molecular Polarity" simulation at http://employees.oneonta.edu/viningwj/sims/determining_molecular_polarity_m.html
- II. Take turns solving the problems on this handout--one partner completes the odd problems, while the other partner completes the even problems. Assume all reactions occur in aqueous solution.
 - a. For each molecule or ion in Parts 1 and 2, draw a Lewis structure.
 - b. Then, determine the geometry around the central atom in each molecule or ion in parts 1 and 2. Sketch the correct geometry of the molecule or ion.
 - c. Finally, use vectors (based on the sketch of the correct geometry) to determine whether each molecule in part 1 will be polar or non-polar.
- III. After each problem, discuss the answer with your partner. If both partners agree on the answer, both students initial the answers. If an agreement can't be reached, both partners raise their hands to get the teacher's attention.
- IV. Complete the self-evaluation.

Part 1:





Part II: Draw Lewis structures for the following polyatomic ions. Determine the geometry around the central atom.



The purpose of this assignment was to:

Did I:	Circle the appropriate response:		
Clearly identify the errors?	Always	Sometimes	Rarely
Listen while my partner explained?	Always	Sometimes	Rarely
Give my partner positive support?	Always	Sometimes	Rarely
Stay on task during the assignment?	Always	Sometimes	Rarely
Use encouraging and polite words?	Always	Sometimes	Rarely
Record my work on the paper?	Always	Sometimes	Rarely
Demonstrate an understanding of the material?	Yes	No	

Comments:

Answers:

1. bent, polar (slightly)

7. trigonal planar, non-polar

2. tetrahedral, non-polar

3. tetrahedral, polar

8. linear, non-polar

4. bent, polar

9. square pyramid, polar

10. square planar, non-polar

5. trigonal pyramidal, polar

11. see-saw, polar

12. t-shaped, polar

6. linear, non-polar

13. octahedral, non-polar

14. bent, polar

ions

5. trigonal planar *

7. tetrahedral *

10. trigonal pyramidal **