Honors Chemistry Hour\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
Dr. Wexler
Geometry of Covalent Compounds
Date:

**Background**The VSEPR model is the “**V**alence **S**hell **E**lectron **P**air **R**epulsion” model. This model minimizes repulsion between shared and unshared electron pairs arranged about a central atom.

These repulsions determine the bond angle, which is the angle between the central atom and two bonded atoms. Unshared (unbonded) electron pairs take up more space than shared pairs and will therefore push bonded atoms towards each other slightly. This affects the shape of the molecule. For example, compare trigonal planar vs trigonal pyramidal in the figure below:



**Questions**Determine the shape of the following molecules. Choose from the following options:
Linear, Trigonal planar, Tetrahedral, Trigonal pyramidal, and Bent. Refer to your Lewis Diagrams.

1. F2

2. O2

3. H2S

4. CO2

5. HCl

6. NH3

7. H2

8. N2

9. PCl3

10. SiH4

11. BeCl2

12. BH3