

# Non Sibi High School

Andover's Chem 250: Introductory/Basic Chemistry

Chapter 11, Review Quiz 1 Answers

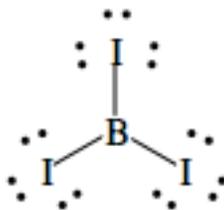
**1**

Draw the Lewis structure, name the molecular geometry (shape), draw a three-dimensional sketch, and indicate the bond angle for each of the following molecules and ions. Also state whether the neutral molecules are polar or nonpolar.

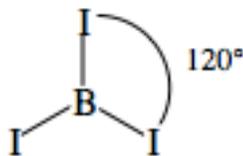
- a.  $\text{BI}_3$
- b.  $\text{CH}_2\text{Br}_2$
- c.  $\text{FNO}$
- d.  $\text{H}_3\text{O}^+$
- e.  $\text{OCS}$
- f.  $\text{PCl}_4^+$
- g.  $\text{SF}_2$

a.

Lewis structure:



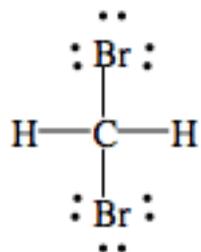
$\text{AB}_3$  = trigonal planar, 3-D sketch:



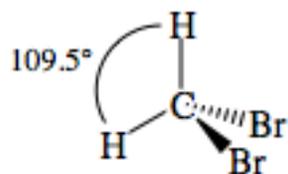
nonpolar molecule

b.

Lewis structure:



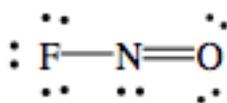
AB<sub>4</sub> = tetrahedral, 3-D sketch:



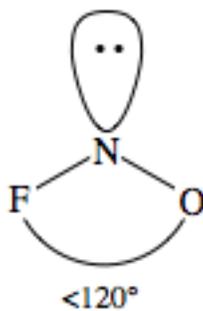
polar molecule (different outer elements)

c.

Lewis structure:



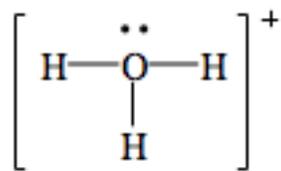
AB<sub>2</sub>E<sub>1</sub> = bent, 3-D sketch:



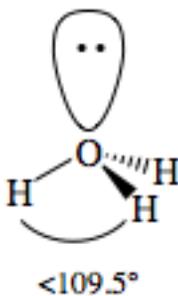
polar molecule

d.

Lewis structure:

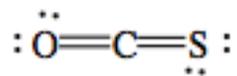


AB<sub>3</sub>E<sub>1</sub> = trigonal pyramidal, 3-D sketch:

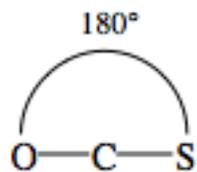


e.

Lewis structure:



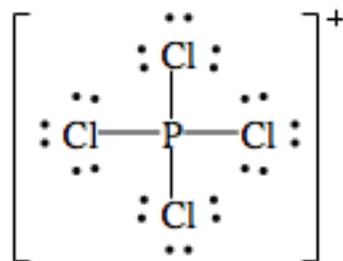
AB<sub>2</sub> = linear, 3-D sketch:



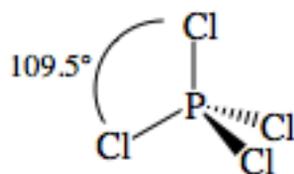
polar molecule (different outer elements)

f.

Lewis structure:

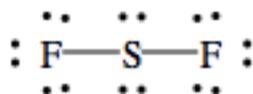


AB<sub>4</sub> = tetrahedral, 3-D sketch:

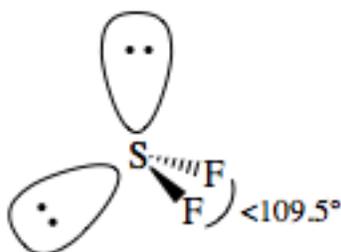


g.

Lewis structure:



AB<sub>2</sub>E<sub>2</sub> = bent, 3-D sketch:



polar molecule



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Contact: [kcardozo@andover.edu](mailto:kcardozo@andover.edu)