

Lewis Structures and Molecular Geometry

Name Key
Period Date

Directions: for each of the following draw the Lewis Structure and predict the molecular shape!

FORMULA	STRUCTURE	MOLECULAR SHAPE	Polar
1. NH_4^{+1}		tetrahedral	NON
2. SO_4^{-2}		tetrahedral	NON
3. NF_3		trigonal pyramidal	polar
4. H_2S		Bent.	polar
5. ClO_3^{-1} $7 \times 8 + 1 = 26$		trigonal pyramidal	polar
6. BeF_2 $4 + 2 = 16$ $\text{Be} - \text{F}$ $\Delta \text{EN} = 2.5$ Ionic		Ionic	NA



7. NO^{+1} $5+6-1=10$	$:\text{N} \equiv \text{O}:$	linear	NON
8. NO_3^{-1} $5+18+1=24$	$\left[\begin{array}{c} :\ddot{\text{O}}: \\ :\ddot{\text{O}}: \\ :\ddot{\text{O}}: \end{array} \text{N} = \ddot{\text{O}}: \right]^{-1}$	trigonal planar	NON
9. PH_3 $5+3=8$	$\begin{array}{c} \text{H} \\ \\ \text{H} - \text{P} - \text{H} \\ \\ \text{H} \end{array}$	trigonal pyramidal	polar
10. H_2O 8	$\begin{array}{c} :\ddot{\text{O}}: \\ / \quad \backslash \\ \text{H} \quad \text{H} \end{array}$	Bent or V	polar
11. CCl_4 32	$\begin{array}{c} \text{Cl} \\ \\ \text{Cl} - \text{C} - \text{Cl} \\ \\ \text{Cl} \end{array}$	Tetrahedral	NON
12. HF 8 $\text{DEN} = 1.9$ ionic?	$\text{H} - \ddot{\text{F}}:$	linear	Polar

Qualitative
Nonmetal and non metal
Covalent - extreme polar covalent!
 $\text{DEN} = 1.9$!