

Name Key Period _____ Date _____

Molecular Geometry

For each of the following molecules, draw the Lewis Diagram and deduce the notation from this (i.e. AX₄E₂). Then, identify the correct the molecular shape.

MOLECULE	LEWIS DIAGRAM	Notation	SHAPE
1. BeF ₂	$\begin{array}{c} \text{:}\ddot{\text{F}}\text{:} \\ \\ \text{:}\ddot{\text{F}}\text{:} - \text{Be} - \text{:}\ddot{\text{F}}\text{:} \\ \\ \text{:}\ddot{\text{F}}\text{:} \end{array}$	AX ₂	$\text{F} - \text{Be} - \text{F}$ linear
2. AsH ₃	$\begin{array}{c} \text{H} - \overset{\cdot\cdot}{\text{As}} - \text{H} \\ \\ \text{H} \end{array}$	AX ₃ E	$\begin{array}{c} \text{E} \\ \\ \text{H} \text{ --- } \text{As} - \text{H} \\ \diagup \\ \text{H} \end{array}$ trigonal pyramidal
3. NO ₂ ⁻	$\left[\text{:}\ddot{\text{O}} = \overset{\cdot\cdot}{\text{N}} - \overset{\cdot\cdot}{\text{O}}\text{:} \right]^{-}$	AX ₂ E	$\begin{array}{c} \text{E} \\ \\ \text{O} - \text{N} - \text{O} \end{array}$ bent
4. SiH ₄	$\begin{array}{c} \text{H} \\ \\ \text{H} - \text{Si} - \text{H} \\ \\ \text{H} \end{array}$	AX ₄	$\begin{array}{c} \text{H} \\ \\ \text{H} \text{ --- } \text{Si} - \text{H} \\ \diagup \\ \text{H} \end{array}$ tetrahedral

MOLECULE	LEWIS DIAGRAM	Notation	SHAPE
5. SeH_2		AX_2E_2	
6. XeF_4		AX_4E_2	
7. PF_5		AX_5	
8. SeF_6		AX_6	