# of e^- domains	e^- domain geometry	# of bonding domains	# of non-bonding domains	Molecular geometry	Ideal Bond Angles	General formula	Example
2	Linear	2	0	Linear	180°	AX_2	CO_2
3	Trigonal Planar	3	0	Trigonal Planar	120°	AX_3	CO_3^{2-}
		2	1	Bent	120°	AX_2E	NO_2^-
4	Tetrahedral	4	0	Tetrahedral	109.5°	AX_4	CH_4
		3	1	Trigonal Pyramidal	109.5°	AX_3E	NH_3
		2	2	Bent	109.5°	AX_2E_2	H_2O
5	Trigonal Bipyrimidal	5	0	Trigonal Bipyramidal	120°, 90°	AX_5	SbF_5
		4	1	See-saw	120°, 90°	AX_4E	SF_4
		3	2	T-shaped	90°	AX_3E_2	ClF_3
		2	3	Linear	180°	AX_2E_3	XeF_2
6	Octahedral	6	0	Octahedral	90°	AX_6	SF_6
		5	1	Square Pyramidal	90°	AX_5E	IF_5
		4	2	Square Planar	90°	AX_4E_2	XeF_4

Bond Angle Adjustments: Lone pairs repel other e^- domains more than bonds do (≈ 2.5° per L.P.)

Example:

CH_4 vs. NH_3 vs. H_2O

∠HCH = 109.5° ∠HNH = 107° ∠HOH = 104.5°

Polarity Trends: A molecule will be non-polar if all dipoles cancel out, otherwise, it will be polar.

- Formula: AX_nE_0 with all the X's the same → Non-Polar Molecule
- Formula: AX_nE_0 with not all A-X bonds identically polar → Polar Molecule
- Formula: $AX_nE_{n\geq1}$ → Usually Polar
  - Exception : XeF_4

Hypervalent Repulsion Energy:

LonePair-LonePair > LonePair-BondingPair > BondingPair-BondingPair