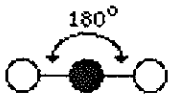
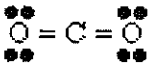
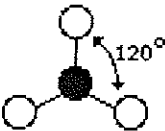
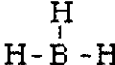
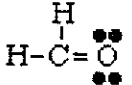
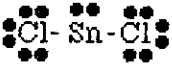
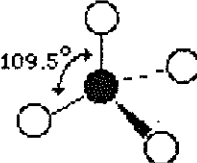
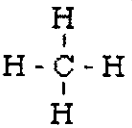
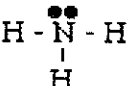

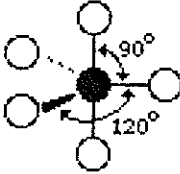
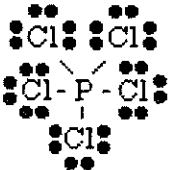

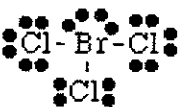
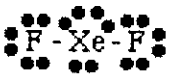
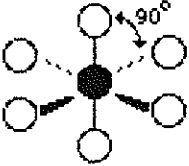
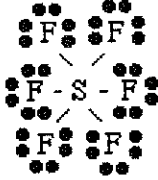
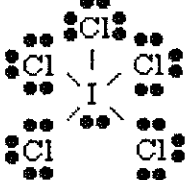
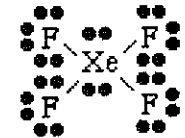


COMPARISON OF VSEPR & VB THEORIES

Valence Shell Electron Pair Repulsion Theory

Valence Bond Theory

Class e ⁻ pair geometry	bonding e ⁻ pairs	lone e ⁻ pairs	Molecular Shape/geometry	Examples	*π bonds	σ bonds	lone pairs	Hybrid Orbital
 <p style="text-align: center;">180°</p> <p style="text-align: center;">Linear</p>	2	0	Linear	H - Be - H	0	2	0	sp
	2	0	Linear		2	2	0	
	2	0	Linear	H - C ≡ N	2	2	0	
 <p style="text-align: center;">120°</p> <p style="text-align: center;">Trigonal Planar</p>	3	0	Trigonal planar		0	3	0	sp ²
	3	0	Trigonal planar		1	3	0	
	2	1	Bent		0	2	1	
 <p style="text-align: center;">109.5°</p> <p style="text-align: center;">Tetrahedral</p>	4	0	Tetrahedral		0	4	0	sp ³
	3	1	Trigonal pyramidal		0	3	1	
	2	2	Bent		0	2	2	
 <p style="text-align: center;">90° 120°</p> <p style="text-align: center;">Trigonal Bipyramidal</p>	5	0	Trigonal bipyramidal		0	5	0	sp ³ d
	4	1	See-saw		0	4	1	
	3	2	T-shape		0	3	2	
	2	3	Linear		0	2	3	

Class e ⁻ pair geometry	bonding e ⁻ pairs	lone e ⁻ pairs	Molecular Shape/geometry	Examples	*π bonds	σ bonds	lone pairs	Hybrid Orbital
 Octahedral	6	0	Octahedral		0	6	0	sp ³ d ²
	5	1	Square pyramidal		0	5	1	
	4	2	Square planar		0	4	2	

*Note that pi (π) bonds do not affect hybrid or shape. The sigma (σ) bonds and lone pairs dictate which hybrid and what geometry is involved.