

More Shapes of Molecules

Using VSEPR Theory to Predict Molecular Shape

General formula*	Bond pairs	Lone pairs	Total pairs	Molecular shape		Examples
				Geometry**	Shape diagram	
AX_2E	2	1	3	V-shaped (trigonal planar)		$SnCl_2$
AX_5	5	0	5	trigonal bipyramidal (trigonal bipyramidal)		$SbCl_5$
AX_4E	4	1	5	seesaw (trigonal bipyramidal)		SF_4
AX_3E_2	3	2	5	T-shaped (trigonal bipyramidal)		BrF_3
AX_2E_3	2	3	5	linear (trigonal bipyramidal)		XeF_2
AX_6	6	0	6	octahedral (octahedral)		SF_6
AX_5E	5	1	6	square pyramidal (octahedral)		BrF_5
AX_4E_2	4	2	6	square planar (octahedral)		XeF_4

* A is the central atom; X is another atom; E is a lone pair of electrons.

** Electron-pair arrangement is in parentheses.