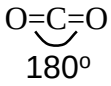
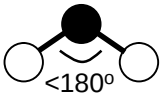
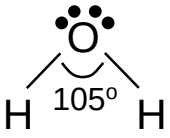
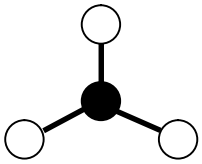
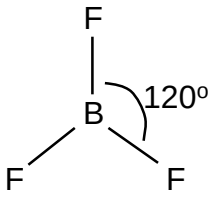
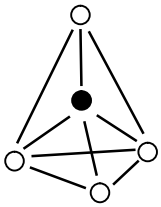
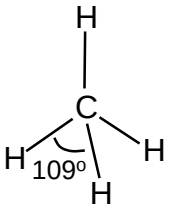
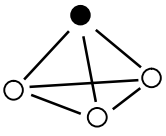
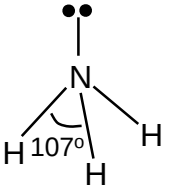
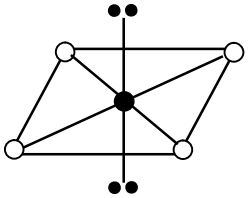
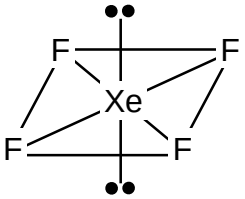
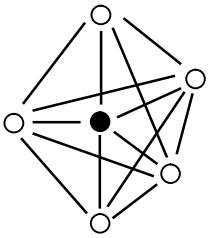
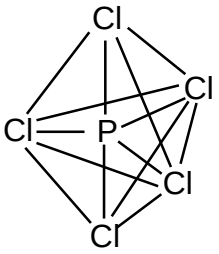
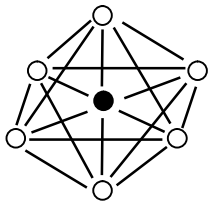
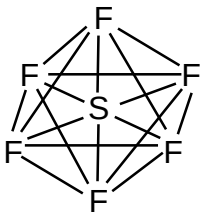
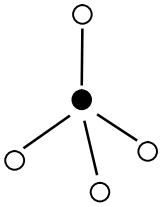
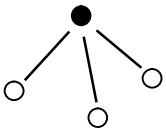
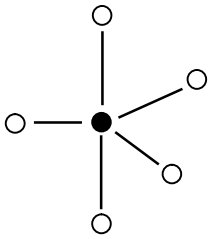
Number of bonding sets of electrons (bonding electron pairs and multiple bonds)	Number of pairs of lone (non-bonding) electrons	Shape of Molecule	Examples
2	0	linear 	Cl-Be-Cl 
2	2	bent (non-linear, V-shaped) 	H_2O (104.5º), H_2S (92º), ClO_2^- 
3	0	Trigonal planar 	BF_3, SO_3 
4	0	Tetrahedral 	CH_4, NH_4^+, ClO_4^- 
3	1	Pyramidal 	NH_3 (107º), PH_3 (93º), ClO_3^- 
4	2	Square planar 	XeF_4, ICl_4^-, 90º 

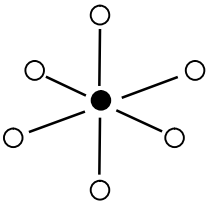
5	0	Trigonal bipyramid 	PCl_5 (120°, 90°) 
6	0	Octahedral 	SF_6, $[Al(H_2O)_6]^{3+}$  All bond angles 90°

N.B. Additional lines used to construct the geometric shape do not represent bonds, the bonds of some of the shapes are shown below:


Tetrahedral


Pyramidal


Trigonal bipyramid


Octahedral

The number of atoms surrounding the central atom is the coordination number, e.g. 4 for tetrahedral, 3 for pyramidal, 5 for pentagonal bipyramid and 6 for octahedral.

Note all molecules consist of peripheral atoms bonded to a central atom! Diatomic molecules consist of two atoms only, e.g. H-H, F-F, O=O, N≡N. Sulphur usually forms S_8 rings (puckered rings), the white allotrope of phosphorus forms P_4 triangular pyramids which are linked in chains in the red phosphorus allotrope. Other molecules form chains (e.g. $BeCl_2$), sheets or giant molecular lattices (e.g. diamond). Boron forms B_{12} icosahedra (20 equal triangular sides) with a B atom at each vertex and these are then linked together in various ways.