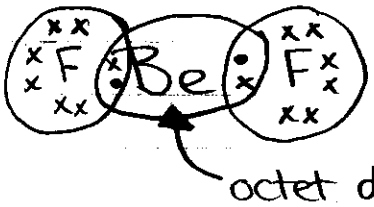
pg*2 cont.

explanation

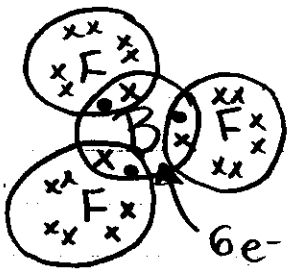
Examples of Lewis Dot Diagrams - Bonding. March. 25 2010.

BeF_2



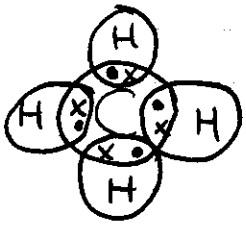
base shape: linear
actual shape: linear
bond angle: 180°

BF_3



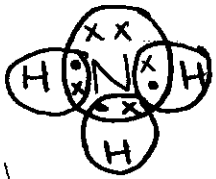
base shape: trigonal planar
actual shape: trigonal planar
bond angle: 120°

CH_4



base shape: tetrahedral
actual shape: tetrahedral
bond angle: 109.5°

NH_3

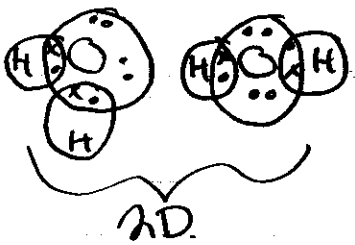


base shape: tetrahedral
actual shape: pyramidal
bond angle: < 109.5° (107°)

★ base shape = sigma + lone
actual shape = sigma only ★

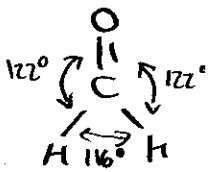
★ base shape and actual shape are different only if lone pair is present on the central atom ★

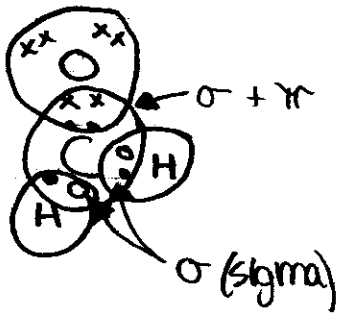
H_2O



base shape: tetrahedral
actual shape: angular
bond angle: < 109.5° (104.5°)

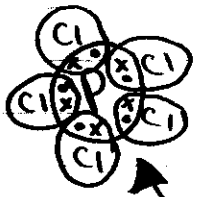
formaldehyde.
$H_2C=O$





base shape: trigonal planar
actual shape: trigonal planar
bond angle: ~ 120°

PCl_5

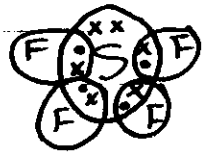


10e⁻ expanded valence shell

base shape: trigonal bipyramidal
actual shape: trigonal bipyramidal
bond angle: 90° + 120°

truncation to make 1 lone pair

SF_4



base shape: trigonal bipyramid
actual shape: seesaw
bond angle: <90° + <120°

ClF_3

base shape: trigonal bipyramid
actual shape: t-shaped
bond angle: <90°