SF_4 ClF_3

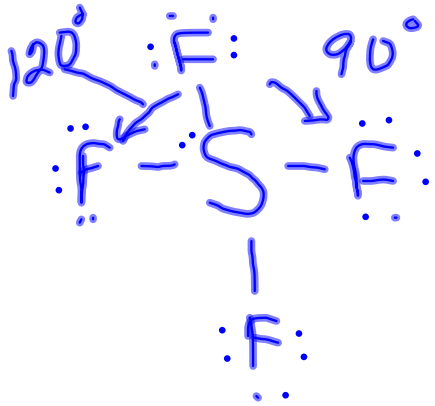
IF_5 ICl_4^-

$SeCl_2$ H_2CO

Lewis hybrid geometries ideal ≠ real bond ∠ σ π } bonds

SF_4

$6 + 4(7) = 34$



trigonal bipyramidal

sp^3d

seesaw or distorted tetrahedron.

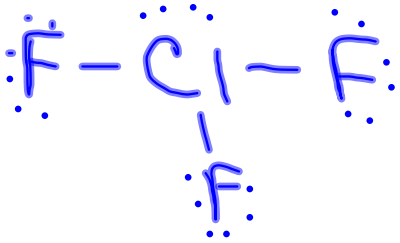
120°, 90°

σ bonds 4

π bond 0

ClF_3

$7 + 3(7) = 28$



trigonal bipyramidal

sp^3d 90°, 120°

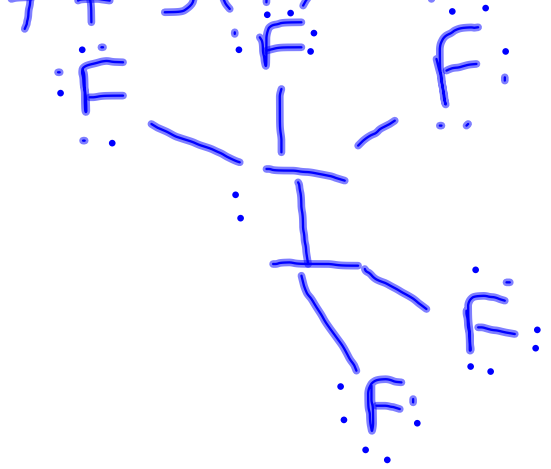
T-shape

σ bonds 3

π bonds 0

IF_5

$7 + 5(7) = 42$



Octahedral

sp^3d^2 90°

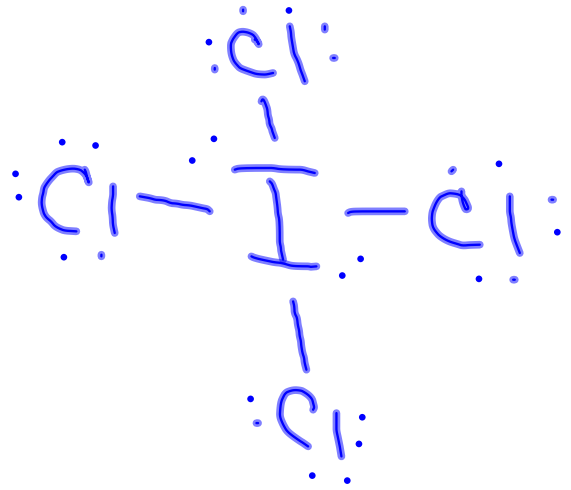
Square pyramidal

σ 5

π 0

ICl_4^-

$7 + 4(7) + 1 = 36$



octahedral

$90°$ sp^3d^2

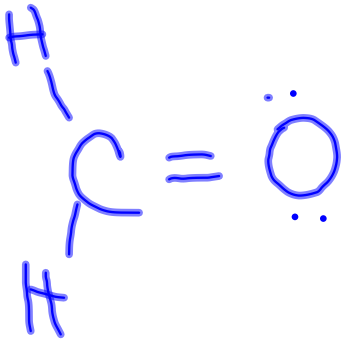
square planar

Q 4

π 0

H_2CO

$2(1) + 4 + 6 = 12$



ideal + real

trigonal planar

$120°$ sp^2

σ 3

π 1

$SeCl_2$

$6 + 2(7) = 20$

0 2

π 0

tetrahedral

109°

Vent - Real (105°)

sp^3

CF_4

NF_3

OF_2

BeH_2

AsF_5

KrF_2

KrF_4

SeF_6

IF_5

IF_3