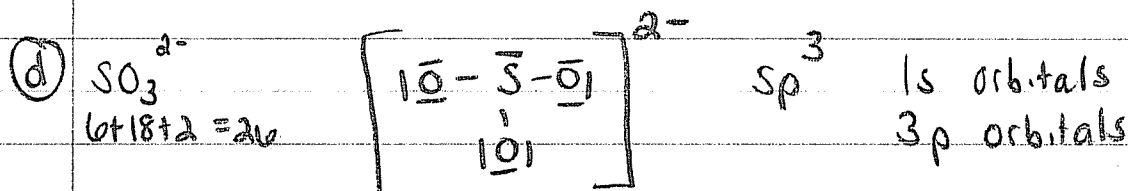
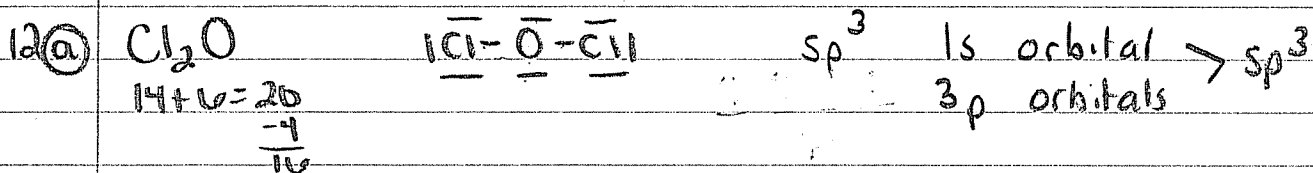
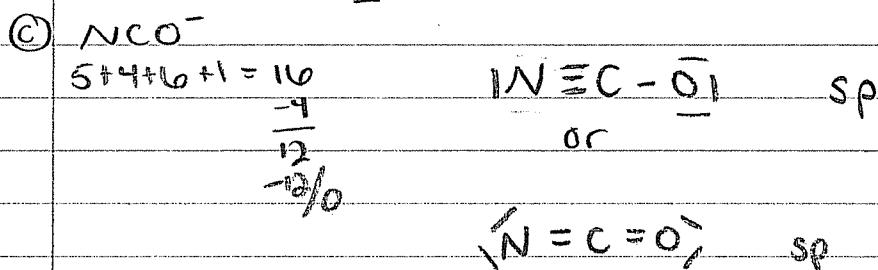
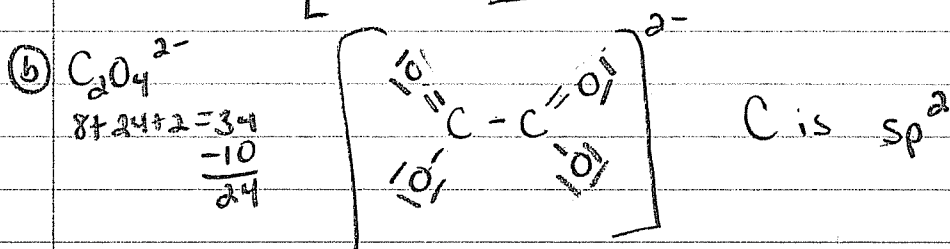
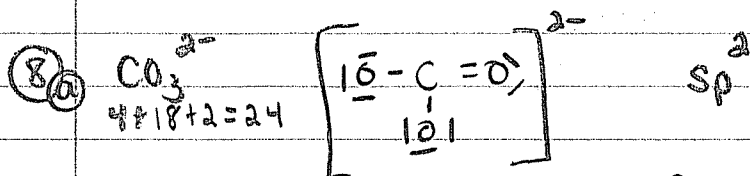


Ch. 11 ~~2a-c, 8, 12a-d, 20, 22a-c, 24b-c,~~
~~31, 32, 37, 47, 50, 54~~

- 2a) AX_2E sp^2
 b) AX_3E sp^3
 c) AX_4E sp^3d



20a) False 1 sigma + 1 pi = double bond

b) False 1 sigma + 2 pi = triple bond

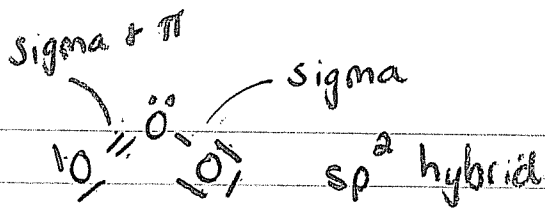
c) True

d) True

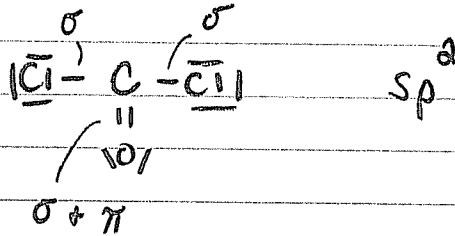
e) False - 1 pair of electrons

f) False - electron density is along bond axis

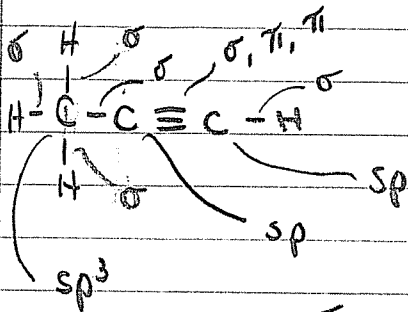
22a) O_3
18



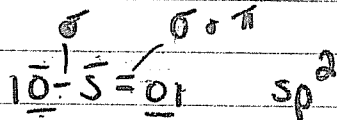
c) $COCl_2$
 $4+6+14=24$



24 b)



c) SO_2
 $6+12=18$



31) SKIP

35) SKIP

37) SKIP

41) 1 sp^3
2 sp^2
3 sp^3
4 sp^3
5 sp^2
6 sp^2

σ bonds = ~~28~~ (27 my count)

c) $\Delta a =$ slightly less 109.5°

$\Delta b = 120^\circ$

$\Delta c = 120^\circ$

- 50
- (a) right hand Carbon ring
 - all carbons are sp^2 hybridized
 - trigonal planar orientation
 - AX_3 orientation
 - (b) O in center ring is sp^3 , the same as O in OH group
 - all have tetrahedral electron domain
 - AX_2E_2
 - (c) C-O σ bonds = 6
C-O π bond = 1
 - (d) NO OH lone pairs occupy sp^3 hybrid
C=O lone pairs occupy sp^2 hybrid

54 (a) N sp^2 hybrid so 1s orbital + 2 p orbitals

(b) sp^2

(c) C in CH_3 is sp^3

C in ring sp^2