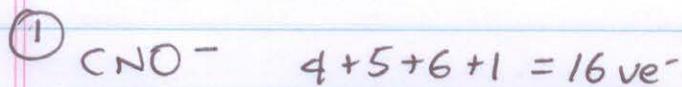
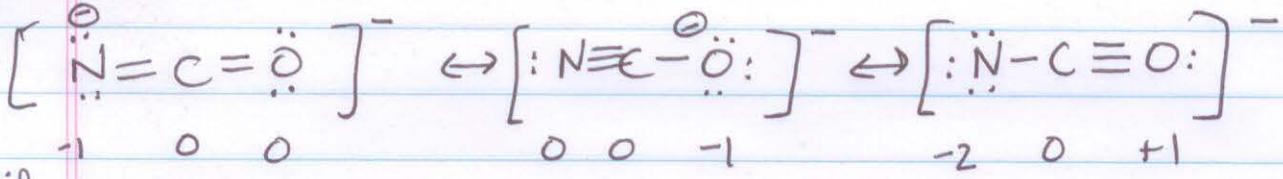


PS #3

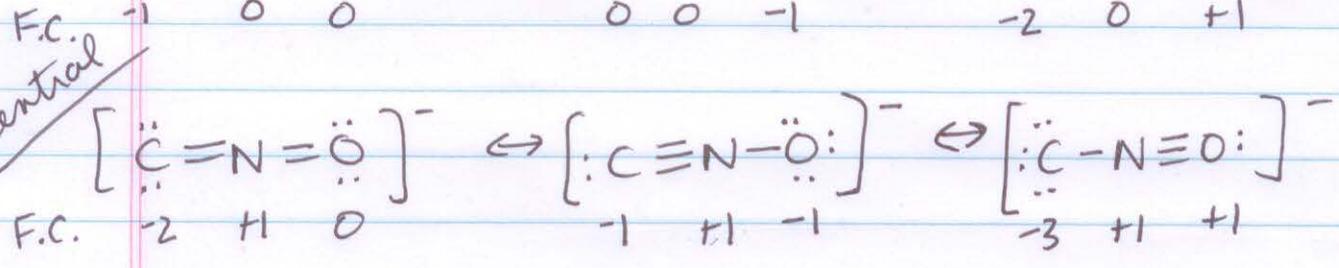


C central

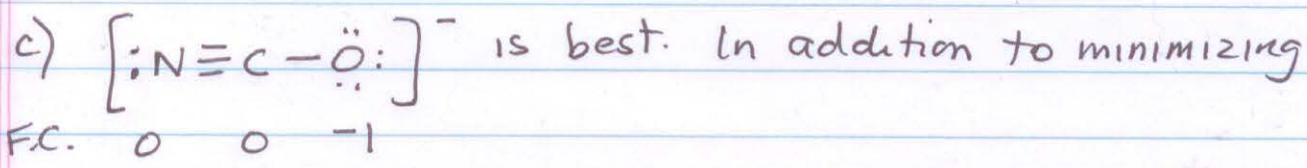
a) Two different central atoms: C vs. N



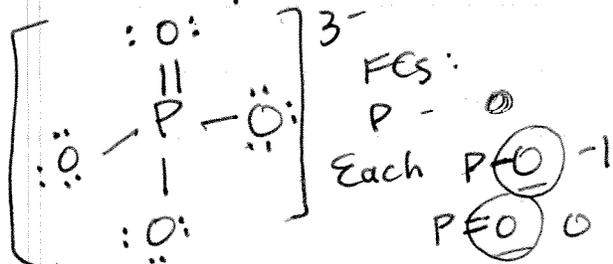
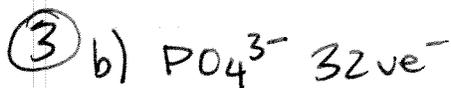
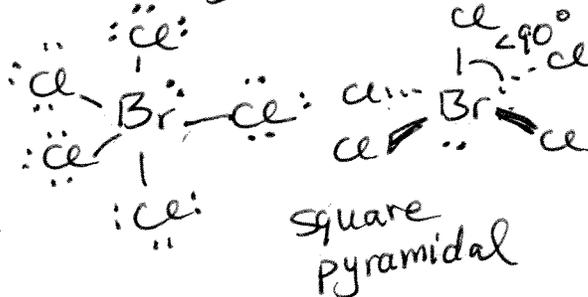
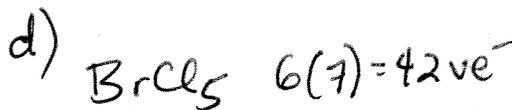
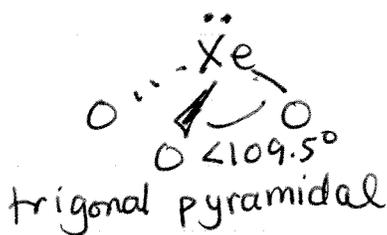
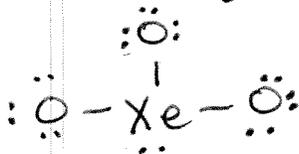
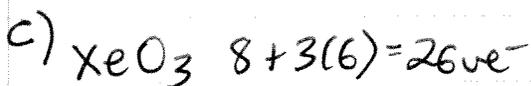
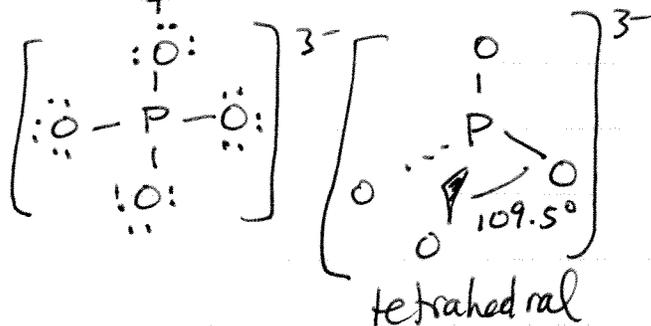
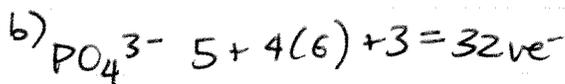
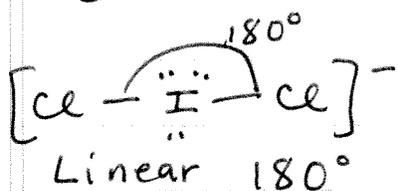
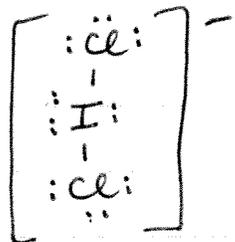
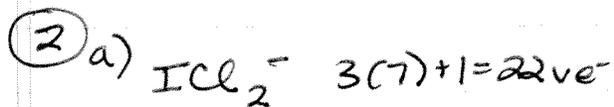
N central



b) C is the central atom. This atom arrangement allows for FCs to be minimized, something that is not possible with N as the central atom.

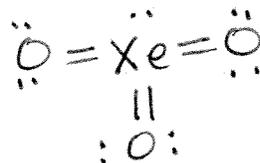
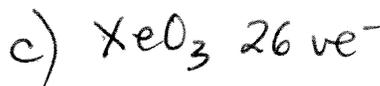
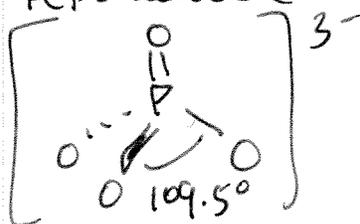


FCs $[(0, 0, -1)]$, it places the -1 formal charge on the most electronegative atom - the atom that can best attract e^- to achieve a negative charge.



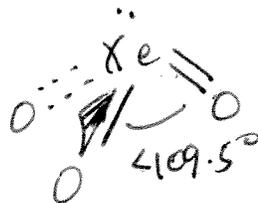
+ 3 equiv. resonance structures

Note: Geom. is still tetrahedral



Each atom has FE=0

Geom. is still trigonal pyramidal



4) a) XeO_3 and BrCl_5 are polar. ICl_2^- and PO_4^{3-} are not.

b) ICl_2^- SN=5 \rightarrow sp^3d

PO_4^{3-} SN=4 \rightarrow sp^3

XeO_3 SN=4 \rightarrow sp^3

BrCl_5 SN=6 \rightarrow sp^3d^2