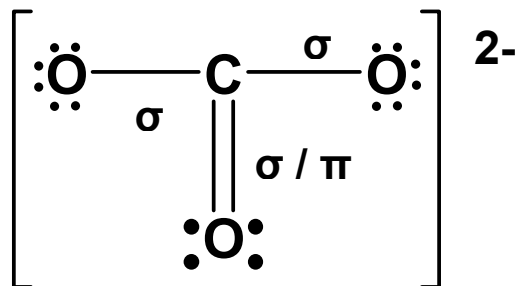
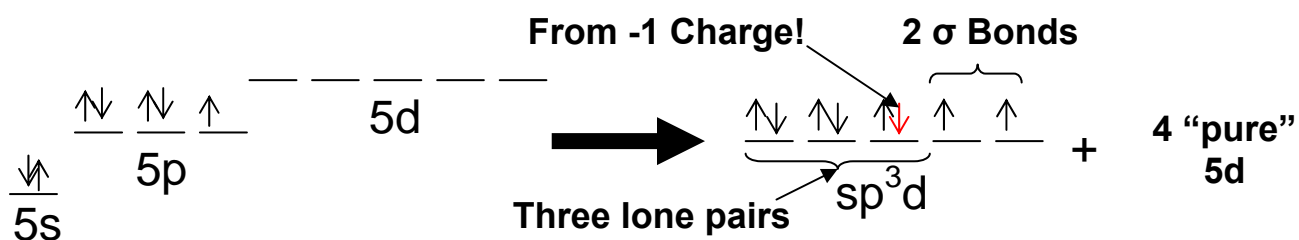


Hybridization: sp^3d

of Sigma Bonds: 2

of Pi Bonds: 0

Orbital Diagram:

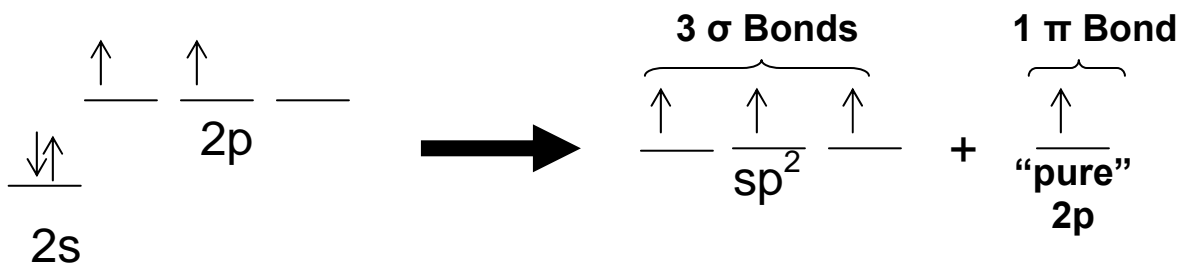


Hybridization: sp^2

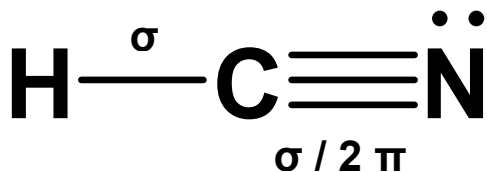
of Sigma Bonds: 3

of Pi Bonds: 1

Orbital Diagram:



HCN

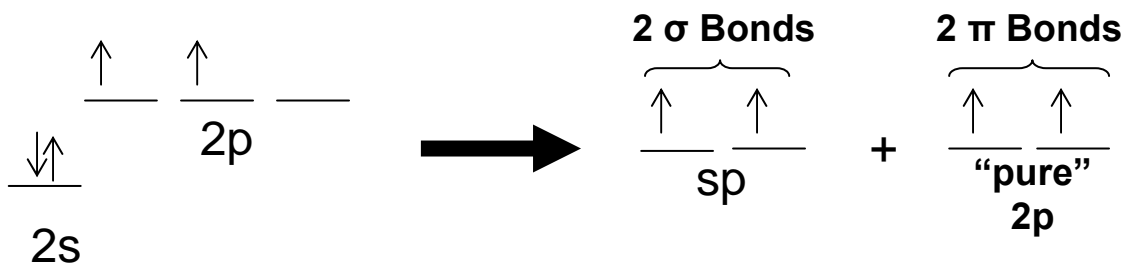


Hybridization: **sp**

of Sigma Bonds: **2**

of Pi Bonds: **2**

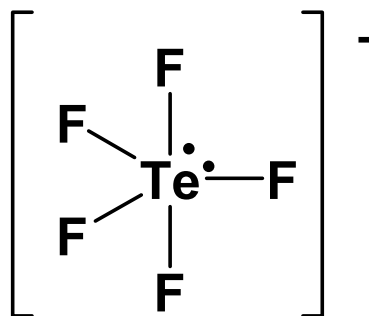
Orbital Diagram:



TeF₅⁻¹

Lone Pairs on
all the
Fluorines

All sigma
bonds

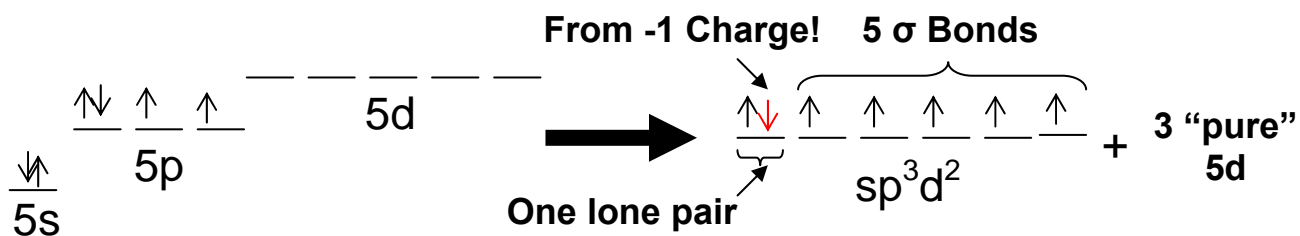


Hybridization: **sp³d**

of Sigma Bonds: **5**

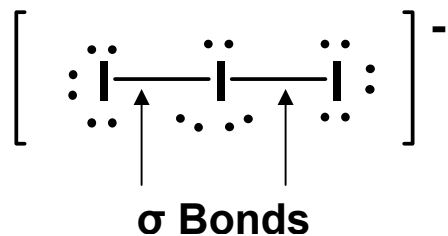
of Pi Bonds: **0**

Orbital Diagram:



I_3^-

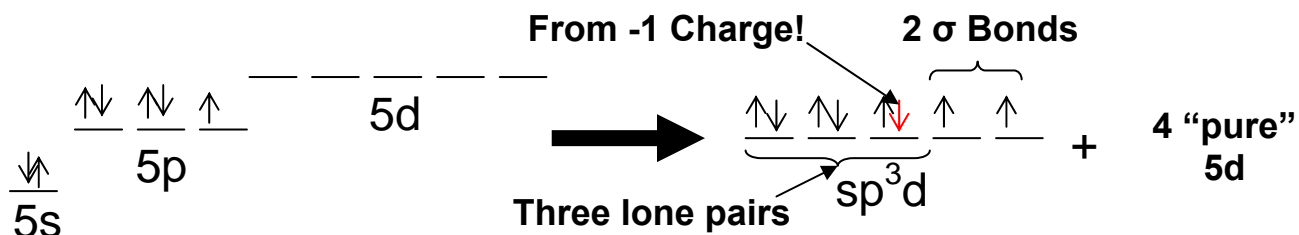
Hybridization: sp^3d



of Sigma Bonds: 2

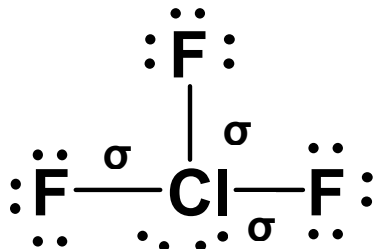
of Pi Bonds: 0

Orbital Diagram:



ClF_3 (Chlorine is the central atom here)

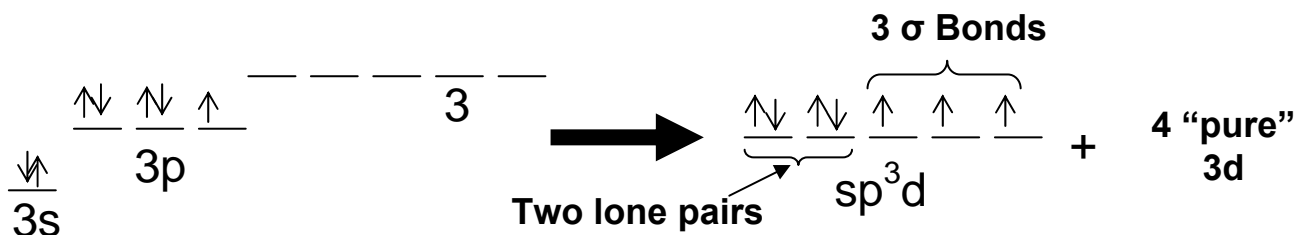
Hybridization: sp^3d



of Sigma Bonds: 3

of Pi Bonds: 0

Orbital Diagram:



For this problem, do each indicated atom individually below.

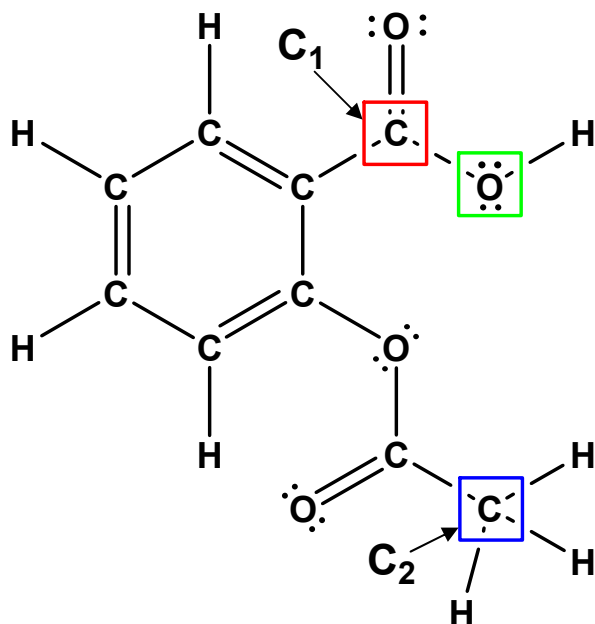
In addition, answer the following:

How many sigma bonds total are in the structure?

_____ 21 _____

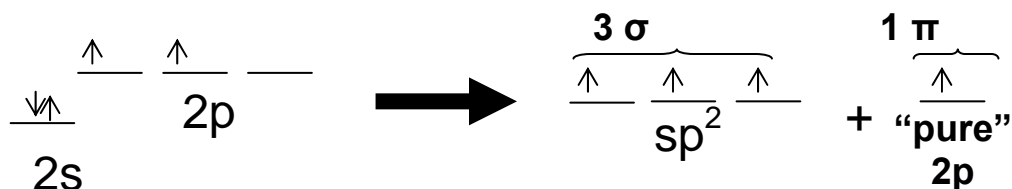
How many pi bonds total are in the structure?

_____ 5 _____



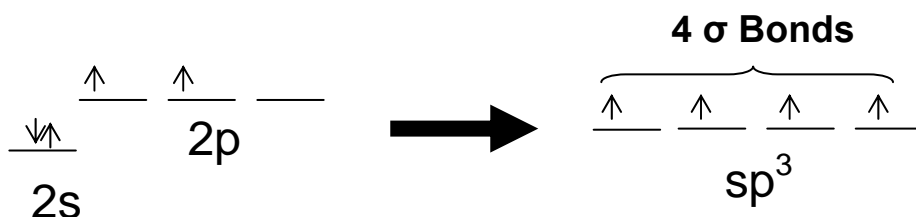
C₁ Hybridization: sp² # of Sigma Bonds: 3 # of Pi Bonds: 1

Orbital Diagram:



C₂ Hybridization: sp³ # of Sigma Bonds: 4 # of Pi Bonds: 0

Orbital Diagram:



O Hybridization: sp³ # of Sigma Bonds: 2 # of Pi Bonds: 0

Orbital Diagram:

