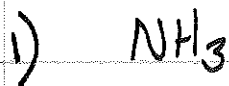


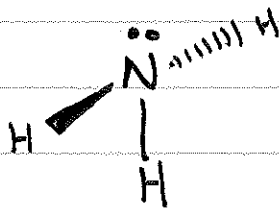
# AP Chem - Unit 6 - NMSI - Covalent Bonding

1/1



N  $1 \times 5 = 5$

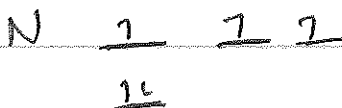
H  $1 \times 3 = 3$   
8Ve



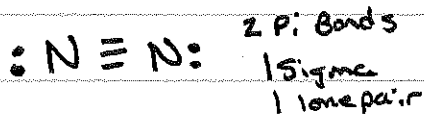
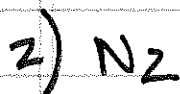
Steric # 4, 1 lone pair

Structural/Electrical Geometry: Tetrahedral  
molecular Geometry: trigonal planar

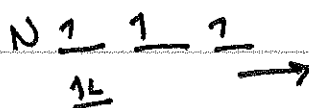
N 1 lone pair  
3 Sigma



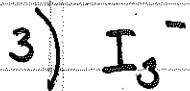
$sp^3$  hybridize



linear Geometry

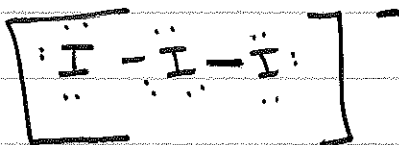


$sp$  hybridize



I  $3 \times 7 = 21$

$e = \frac{1}{22Ve}$



Center I: Steric # 5

Structural Geo  $\Rightarrow$  trigonal bipyramid

molecular Geo  $\Rightarrow$  linear

Center I  $\rightarrow$  3 lone pairs } 5 Bonds  
2 sigma

$\therefore$  hybridized  $dsp^3$

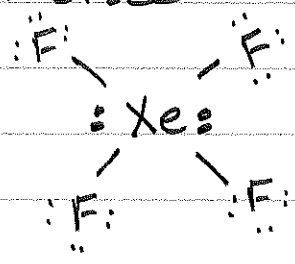
AP Chem - Unit 6 - NASTI - CB

9)

XeF<sub>4</sub> hybridized?

Xe 1x8 = 8

F 4x7 = 28  
36Ve

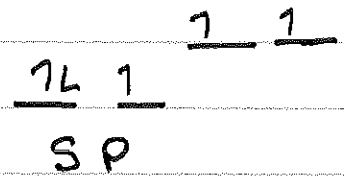
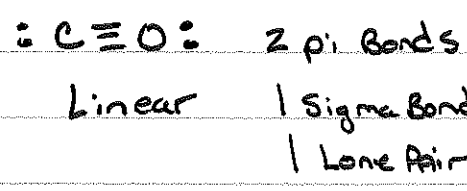


Xe 2 lone pairs } 6 Bonds  
4 Sigma

∴ d<sup>2</sup>sp<sup>3</sup> hybridized

5) a) CO

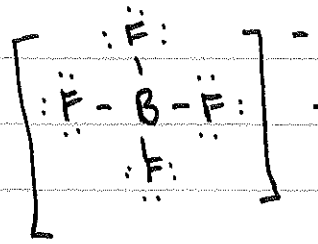
C 1x4  
O 1x6  
10Ve



SP hybridized is the only configuration that gives 2σ, 1π, 1 lone pair

B) BF<sub>4</sub><sup>-</sup>

B 1x3 = 3  
F 4x7 = 28  
1e = 1  
32Ve



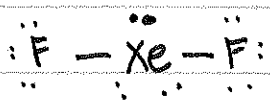
Tetrahedral

B 4 Sigma



C) XeF<sub>2</sub>

Xe 1x8 = 8  
F 2x7 = 14  
22Ve



steric #5, 3 lone pair = Linear Geometry

2 Sigma Bonds } 5 Bonds  
3 lone pairs

∴ dsp<sup>3</sup> hybridized