

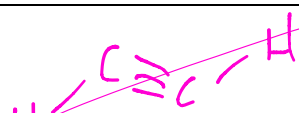
WKS – Chem Honors
VSEPR: Molecular Shapes

NAME Answer Key
 Period _____ Date _____

Determine the Electron & Molecular Geometries & draw a 3D diagram of the following molecules:

Molecule	Lewis Structure (from previous WKS)	Electron & Molecular Geometries	3D Drawing
1. F ₂		Linear Linear	
2. CF ₄		Tetrahedral Tetrahedral	
3. N ₂		Linear Linear	
4. SO ₂		Trigonal Planar Bent	
5. NO ₂ ⁺		Linear Linear	
6. NO ₂ ⁻		Trigonal Planar Bent	
7. SO ₃ ²⁻		Tetrahedral Trigonal Pyramidal	
8. NH ₃		Tetrahedral Trigonal Pyramidal	
9. OF ₂		Tetrahedral Bent	

Molecule	Lewis Structure (from previous WKS)	Electron & Molecular Geometries	3D Drawing
10. ClO_4^-		Tetrahedral Tetrahedral	
11. CO_2	$:\ddot{\text{O}}=\text{C}=\ddot{\text{O}}:$	Linear Linear	
12. CO	$:\text{C}\equiv\text{O}:$	Linear Linear	$\div\text{C}\equiv\text{O}\div$
13. CN^-	$[:\text{C}\equiv\text{N}:]^-$	Linear Linear	$\div\text{C}\equiv\text{N}\div$
14. NH_4^+		Tetrahedral Tetrahedral	
15. PO_4^{3-}		Tetrahedral Tetrahedral	
16. C_2H_6		Tetrahedral Tetrahedral (each C)	
17. C_2H_4		Trigonal Planar Trigonal Planar (each C)	
18. C_2H_2		Linear Linear (each C)	$\text{H}-\text{C}\equiv\text{C}-\text{H}$
19. N_2H_2		Trigonal Planar Bent (each N)	



11