

Chemistry 20 - Stereochemistry Practice

Name: _____

Complete all of the following problems to the best of your ability. Ensure that you show all of your work as appropriate. Should you encounter difficulties, please refer to your notes or section 3.3 of your textbook.

Compound	Lewis Diagram	General Formula	Stereochemical (3-D) Diagram
Carbon dioxide		AX_2 (linear)	
Ammonia		AX_3E (trigonal pyramidal)	
Ammonium ion		AX_4 (tetrahedral)	
Boron trifluoride		AX_3 (trigonal planar)	

<p>Hydrogen cyanide</p> <p>1+4+5 10</p>	$\text{H}:\text{C}::\text{N}:$	AX_2 (linear)	$\text{H}-\text{C}\equiv\text{N}$
<p>Sulfur dichloride</p> <p>6+14 20</p>		AX_2E_2 (Bent)	
<p>Sulfite ion</p> <p>(26e⁻) SO_3^{2-}</p>		AX_3E (trigonal pyramidal)	
<p>Carbon disulfide</p> <p>(16e⁻) CS_2 4+12</p>		AX_2 (linear)	$\text{S}=\text{C}=\text{S}$
<p>CH_2Cl_2</p>		AX_4 (tetrahedral)	
<p>Methanol, $\text{CH}_3\text{OH}_{(l)}$</p>		AX_4 (tetrahedral)	