



STRUCTURE & BONDING (B)

1 Give the formula and structure type of the following substances. (8)

Name	Formula	Structure type				
		Monatomic	Molecular	Giant covalent	Ionic	metallic
sodium sulfate	Na_2SO_4				✓	
sulfur	S_8		✓			
lithium	Li					✓
buckminsterfullerene	C_{60}		✓			
iron(III) hydroxide	$\text{Fe}(\text{OH})_3$				✓	
ammonium bromide	NH_4Br				✓	
helium	He	✓				
ammonia	NH_3		✓			

2 Complete the table about the following molecules and ions. (6)

Molecule / ion	PBr_3	IF_3	AlCl_4^-
sketch of shape (including lone pairs)			
Name of shape	trigonal pyramid	T-shape or trigonal planar	tetrahedral
Bond angles	107°	about 88° or 120°	109.5°