

0.0 - 0.4 non polar
 0.4 - 2.0 polar
 2.0 - 4.0 ionic

Chemistry 11: Molecular Bonds and Shapes

Name: _____

Molecule	Bond Type	Lewis Structure	Shape	Polarity
CO ₂	C: 2.5 O: 3.5 <u>1.0</u> polar	N 3(8) = 24 A 4 + 2(6) = 16 S 24 - 16 = 8 	linear	non-polar
SCl ₆	S: 2.5 Cl: 3.0 <u>0.5</u> polar	N: 12 + 6(8) = 60 A: 6 + 6(7) = 48 S: 60 - 48 = 12 	octahedral	non-polar
BI ₃	B: 2.0 I: 2.5 <u>0.5</u> polar	N: 6 + 3(8) = 30 A: 3 + 3(7) = 24 S: 30 - 24 = 6 	trigonal planar	non-polar
OF ₂	O: 3.5 F: 4.0 <u>0.5</u> polar	N 3(8) = 24 A 6 + 2(7) = 20 S 24 - 20 = 4 : \ddot{F} - \ddot{O} - \ddot{F} : 	Angular/ Bent	polar
H ₂ S	H: 2.1 S: 2.5 <u>0.4</u> polar	N 2(2) + 8 = 12 A 2(1) + 6 = 8 S 12 - 8 = 4 H - \ddot{S} - H 	Angular/ Bent	polar
O ₂	non-polar	N 2(8) = 16 A 2(6) = 12 S 16 - 12 = 4 	linear	non-polar
NF ₃	N: 3.0 F: 4.0 <u>1.0</u> polar	N 4(8) = 32 A 5 + 3(7) = 26 S 32 - 26 = 6 	trigonal pyramidal	polar
PBr ₅	P: 2.1 Br: 2.8 <u>0.7</u> polar	N: 10 + 5(8) = 50 A: 5 + 5(7) = 40 S: 50 - 40 = 10 	trigonal bipyramidal	non-polar
CF ₄	C: 2.5 F: 4.0 <u>1.5</u> polar	N: 5(8) = 40 A: 4 + 4(7) = 32 S: 40 - 32 = 8 	tetrahedral	non-polar