

Chapter 7 – Problem 76

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76. In each of the following molecules, a central atom is surrounded by a total of three atoms or unshared electron pairs: SnCl_2 , BCl_3 , and SO_2 . In which of these molecules would you expect the bond angle to be less than 120° ? Explain your reasoning.

SnCl_2 and SO_2 would most likely have a bond angle less than 120° . This is because both molecules fit the “bent” molecular shape, which is polarized with an angle of 109.5° . This is because of the lone pair of electrons on both of the central atoms.