

Unit 2 Bonding FRQ set 1

Unit 2 - Molecular and Ionic Compound Structure and Properties
Free Response I

Question ____

Name: _____

(a) The following questions pertain to sulfur dichloride, SCl_2 .

- I. Draw a complete Lewis structure of sulfur dichloride, SCl_2 .

- II. Identify the type of hybrid orbitals that surround the central atom.

- III. Name the geometric shape of this structure.

- IV. Is the bond angle in this structure greater than, equal to, or less than 109.5° ? Justify your answer.

(b) The melting temperature for KBr(s) is different from that of KCl(s) .

- I. What types of bonds exist in these two structures? Explain.
- II. Draw representations of both solids that show the relative differences in the sizes of the four particles and the ratio of one particle to another in each solid.
- III. Which compound has the highest melting temperature? Justify your answer.