

Science(Chemistry)

Covalent Bonding II

Name: _____() Class: _____ Date: _____

1. The electronic structure of a sulphur atom can be written as 2,8,6

- a) Write, in the same way, the electronic structures of the atoms of carbon and oxygen.

Carbon _____ Oxygen _____

- b) Draw a diagram showing the electron arrangement in a molecule of carbon dioxide.

- c) Explain why pure carbon dioxide cannot normally conduct electricity.

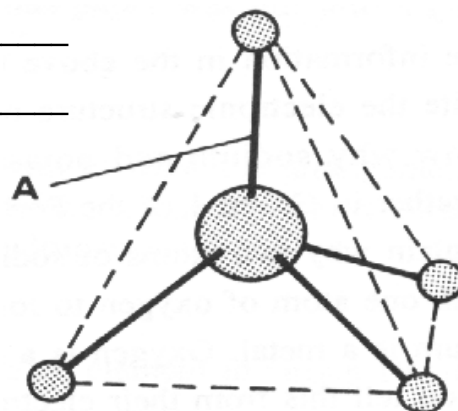
2. Element Y forms a compound with bromine with the formula YBr_4 . The compound has a melting point of -23°C and a boiling point of 77°C .

- a) What is the physical state of YBr_4 at room temperature? _____
- b) What type of bonding would you expect in YBr_4 ? _____
- c) Is Y a metal or a non-metal? _____
- d) How many valence electrons are there in an atom of Y? _____

3. The diagram represents a molecule of methane.

a) i) What type of bond is labeled **A**? _____

ii) What does this bond consist of? _____



b) Explain why methane, like other substances with this type of bonding, has a low boiling point.
