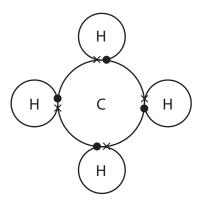
- 1 Many substances exist as molecules.
 - (a) The diagram shows the outer shell electrons in a molecule of methane, CH₄.



(i) Each hydrogen atom is bonded to the carbon atom by a covalent bond.

Give the meaning of the term **covalent bond**.

(1)

(ii) Complete the sentence by putting a cross (☒) in the box next to your answer.

Methane is a typical simple molecular, covalent compound.

A property of methane is that

(1)

- A it has a high melting point
- B it is a good conductor of electricity
- C there are weak bonds in its molecule
- **D** it has a low boiling point

(b) Nitrogen and oxygen are gases in air.	
	Describe how samples of nitrogen and oxygen can be obtained from air.	(3)
*(c) Graphite is a form of the element carbon. Graphite is a giant molecular, covalent substance.	
	Use the structure and bonding in graphite to explain why it is able to be used as a lubricant and as a conductor of electricity.	
		(6)
(d) Give a use of graphite that depends on its ability to conduct electricity.	(1)