

SMART EXAM RESOURCES**9701 CAMBRIDGE AS CHEMISTRY
TOPIC QUESTIONS AND MARK SCHEMES
TOPIC :ATOMIC STRUCTURE****TOPIC:USING IONISATION ENERGY TO IDENTIFY
POSITION OF ELEMENTS****SET-1-QP-MS****1**Successive ionisation energies for element **A** are shown in Table 1.1.**Table 1.1**

ionisation	1st	2nd	3rd	4th	5th	6th	7th	8th
ionisation energy/kJ mol ⁻¹	1310	3390	5320	7450	11 000	13 300	71 000	84 100

Use Table 1.1 to deduce the group of the Periodic Table that **A** belongs to. Explain your answer.

Group

.....

[1]

MARK SCHEME:

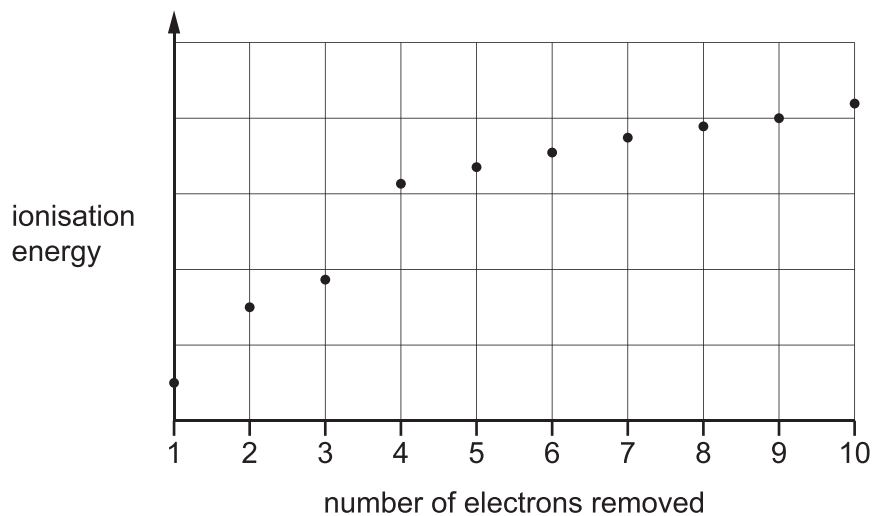
2

Group VI / 16 AND large increase (in IE) after 6th	1
---	---

2

Element **A** is in the p block.

The graph shows the successive ionisation energies for the removal of the first ten electrons of **A**.



State and explain the group of the Periodic Table that element **A** belongs to.

group number

explanation

.....

.....

[2]

MARK SCHEME:

4

M1: 3 OR 13	2
M2: large(r) <i>increase</i> between third and fourth ionisation energies OR large(r) <i>increase</i> after third electron removed	