

SMART EXAM RESOURCES
9701 AS CHEMISTRY TOPIC QUESTIONS
TOPIC: ATOMIC STRUCTURE
SUB-TOPIC: DEDUCE ELEMENT POSITION FROM
IONISATION ENERGIES
SET-1

1.4.6-Deduce-Element-Position-Using-Ionisation-Energy-Data

1.

Four successive ionisation energies (IE) of element E are shown.

Element E is in Period 3 of the Periodic Table.

fifth IE /kJ mol ⁻¹	sixth IE /kJ mol ⁻¹	seventh IE /kJ mol ⁻¹	eighth IE /kJ mol ⁻¹
16 000	20 000	24 000	29 000

In which group of the Periodic Table is E?

A 14

B 15

C 16

D 17

2.

The first six ionisation energies of four elements, **A** to **D**, are given.

Which element is most likely to be in Group IV of the Periodic Table?

ionisation energy / kJ mol ⁻¹	1st	2nd	3rd	4th	5th	6th
A	494	4560	6940	9540	13400	16600
B	736	1450	7740	10500	13600	18000
C	1090	2350	4610	6220	37800	47000
D	1400	2860	4590	7480	9400	53200

3.

Use of the Data Booklet is relevant to this question.

From which particle is the removal of an electron the most difficult?

