



Cambridge International AS Level Chemistry (9701)

TopicalPaper1MCQs – 2021–2025

ATOMIC STRUCTURE

TOPICAL PAST PAPER

2026 EDITION

Section

Electronic configuration

Q1

9701/12/F/M/21/Q2

Electronic configuration

Where in the Periodic Table is the element that has an outer electron shell arrangement of $4s^24p^3$?

	Group	Period
A	13	3
B	13	4
C	15	3
D	15	4

Q2

9701/11/M/J/21/Q2

Electronic configuration

In which pair of species do both species have only one unpaired p electron?

- A** Ar^+ and C^- **B** B and Ti^+ **C** F and Ga **D** Se^- and Si^-

Q3

9701/13/M/J/21/Q3

Electronic configuration

Which atom has the same number of electrons as an ammonium ion?

- A** Mg **B** Na **C** Ne **D** O

Q4

9701/11/O/N/21/Q4

Electronic configuration

The ion X^{2+} has the same electronic configuration as the atom Kr.

What is the electronic configuration of an atom of X?

- A $[\text{Ar}] 4s^2 3d^{10} 4p^6$
- B $[\text{Ar}] 4s^2 3d^{10} 4p^6 5s^2$
- C $[\text{Ar}] 4s^2 4d^{10} 4p^6$
- D $[\text{Ar}] 4s^2 4d^{10} 4p^6 5s^2$

Q5

9701/12/O/N/21/Q4

Electronic configuration

Which atom has more unpaired electrons than paired electrons in orbitals of principal quantum number 2?

- A carbon
- B nitrogen
- C oxygen
- D fluorine

Q6

9701/12/F/M/22/Q2

Electronic configuration

What is the electronic configuration of Mg^{2+} ?

- A $1s^2 2s^2 2p^6$
- B $1s^2 2s^2 2p^6 3s^2$
- C $1s^2 2s^2 2p^6 3s^2 3p^2$
- D $1s^2 2s^2 2p^6 3s^2 3p^6 3d^2 4s^2$

Q7

9701/12/M/J/22/Q2

Electronic configuration

This question refers to isolated gaseous atoms in the ground state.

In which atom are all electrons paired?

A Ba**B** Br**C** S**D** Si**Q8**

9701/13/M/J/22/Q1

Electronic configuration

Which atom has exactly three unpaired electrons in the ground state?

A an isolated gaseous aluminium atom**B** an isolated gaseous carbon atom**C** an isolated gaseous chromium atom**D** an isolated gaseous phosphorus atom**Q9**

9701/11/O/N/22/Q3

Electronic configuration

Which statement about the electrons in a ground state carbon atom is correct?

A Electrons are present in four different energy levels.**B** There are more electrons in p orbitals than there are in s orbitals.**C** The occupied orbital of highest energy is spherical.**D** The occupied orbital of lowest energy is spherical.

Q10 9701/13/M/J/25/Q1

Electronic configuration

Which isolated gaseous atom has a total of five electrons occupying spherically shaped orbitals?

- A sodium
- B fluorine
- C boron
- D potassium

Q11 9701/12/M/J/24/Q6

Electronic configuration

In which species does the underlined atom have an incomplete outer shell?

- A $\underline{\text{B}}\text{F}_3$ B $\underline{\text{C}}\text{H}_3^-$ C $\text{F}_2\underline{\text{O}}$ D $\text{H}_3\underline{\text{O}}^+$

Q12 9701/11/O/N/25/Q1

Electronic configuration

What is the electronic configuration for the particle ${}_{13}^{27}\text{Al}^+$?

- A $1s^2 2s^2 2p^6 3s^1 3p^1$
- B $1s^2 2s^2 2p^6 3s^2$
- C $1s^2 2s^2 2p^6 3s^2 3p^2$
- D $1s^2 2s^2 2p^6 3s^2 3p^6 3d^7 4s^1$

This question refers to isolated gaseous species.

The species F^- , Ne and Na^+ are isoelectronic. This means they have the same number of electrons.

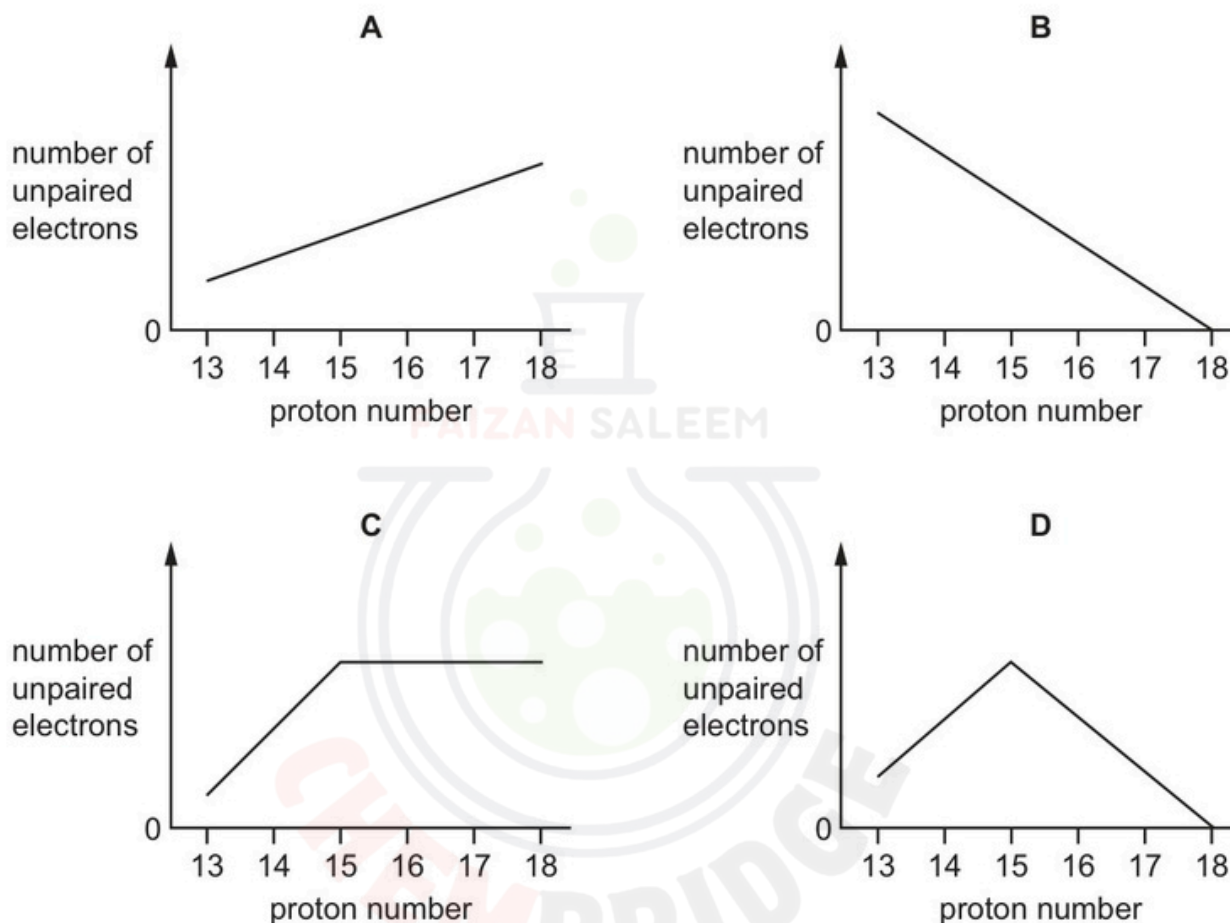
In which order do their radii increase?

	smallest	→	largest
A	Na^+	F^-	Ne
B	F^-	Ne	Na^+
C	Na^+	Ne	F^-
D	Ne	F^-	Na^+

Which row about silicon, Si, and magnesium, Mg, and their ions is correct?

	comparison of silicon and magnesium	explanation
A	Si has a greater atomic radius than Mg.	Si has electrons in 3p orbitals. Mg has electrons in the 3s orbital only.
B	Si has a lower electrical conductivity than Mg.	Si has 4 delocalised electrons per atom. Mg only has 2 delocalised electrons per atom.
C	Si has a lower melting point than Mg.	Si has covalent bonding. Mg has metallic bonding.
D	The radius of Si^{4+} is smaller than the radius of Mg^{2+} .	Si has a greater nuclear charge than Mg.

Which graph represents the number of unpaired electrons in the atoms of six elements in Period 3 of the Periodic Table?



The first seven ionisation energies of an element between lithium and neon in the Periodic Table are shown.

1310 3390 5320 7450 11 000 13 300 71 000 kJ mol^{-1}

What is the outer electronic configuration of the element?

- A** $2s^2$ **B** $2s^2 2p^1$ **C** $2s^2 2p^4$ **D** $2s^2 2p^6$

Protons, Electrons and Neutrons

Q17 9701/12/F/M/21/Q1

Protons, electrons and neutrons

The table shows the numbers of protons, neutrons and electrons in four different particles, W, X, Y, and Z.

	number of protons	number of neutrons	number of electrons
W	32	40	32
X	32	40	34
Y	32	42	32
Z	34	40	34

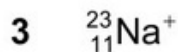
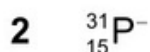
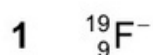
Which pair represents the atoms of two isotopes of the same element?

- A** W and Y **B** W and Z **C** X and Y **D** X and Z

Q18 9701/12/M/J/21/Q31

Protons, electrons and neutrons

In which ions are the number of electrons equal to the number of neutrons?



Which statements are correct?

- A** 1, 2 and 3 **B** 1 and 3 only **C** 2 and 3 only **D** 2 only

Q19 9701/12/O/N/21/Q3

Protons, electrons and neutrons

Technetium (Tc) is a second row transition element that does not occur naturally on Earth. One of its isotopes has 56 neutrons.

What is the nucleon number of this isotope?

- A** 43 **B** 56 **C** 99 **D** 112

Q20

9701/12/O/N/21/Q21

Protons, electrons and neutrons

Bromomethane, CH_3Br , decomposes in the stratosphere forming methyl free radicals and bromine free radicals.

Which row correctly describes this decomposition?

	type of bond fission	number of electrons in a bromine free radical
A	homolytic	35
B	heterolytic	35
C	homolytic	36
D	heterolytic	36

Q21

9701/11/M/J/22/Q2

Protons, electrons and neutrons

Which atom has the same number of electrons as the hydroxide ion, OH^- ?

A F

B Ne

C Na

D Mg

Q22

9701/12/O/N/22/Q3

Protons, electrons and neutrons

In which species are the numbers of protons, neutrons and electrons all different?

A ${}_{13}^{27}\text{Al}$ B ${}_{17}^{35}\text{Cl}^-$ C ${}_{16}^{32}\text{S}^{2-}$ D ${}_{19}^{39}\text{K}^+$

Q23

9701/11/O/N/22/Q23

Protons, electrons and neutrons

Which statement about ammonia or the ammonium ion is correct?

- A** Ammonia gas is produced when an aqueous solution containing the ammonium ion is reacted with a strong acid.
 - B** Silver iodide is soluble in a concentrated aqueous solution of ammonia.
 - C** The ammonium ion has the same number of electrons as a methane molecule.
 - D** The square planar ammonium ion contains a dative covalent bond.
-

Q24

9701/12/M/J/25/Q2

Protons, electrons and neutrons

How many neutrons are contained in an atom of iron with a mass number of 60?

- A** 26 **B** 30 **C** 34 **D** 60
-

Q25

9701/12/F/M/23/Q12

Protons, electrons and neutrons

Which atom contains four times as many neutrons as the ${}^7_3\text{Li}$ atom?

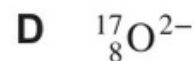
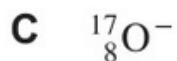
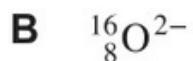
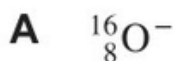
- A** ${}^{40}_{20}\text{Ca}$ **B** ${}^{24}_{12}\text{Mg}$ **C** ${}^{31}_{15}\text{P}$ **D** ${}^{26}_{14}\text{Si}$

Q26

9701/12/O/N/23/Q1

Protons, electrons and neutrons

Which particle contains 8 protons, 9 neutrons and 10 electrons?

**Q27**

9701/14/O/N/25/Q1

Protons, electrons and neutrons

Helium forms an ion $^3_2\text{He}^+$.

Three statements about this ion are listed.

- 1 It contains two protons.
- 2 It contains three neutrons.
- 3 It contains one electron.

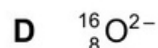
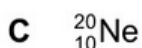
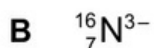
Which statements are correct?

A 1, 2 and 3**B** 1 and 3 only**C** 2 and 3 only**D** 2 only**Q28**

9701/12/F/M/24/Q1

Protons, electrons and neutrons

Which species contains the same number of neutrons as $^{14}_6\text{C}$ and the same number of electrons as $^{23}_{11}\text{Na}^+$?



Q29

9701/13/M/J/24/Q3

Protons, electrons and neutrons

What is the total number of protons, neutrons and electrons present in an ammonium ion with a relative formula mass of 21?

	number of protons	number of neutrons	number of electrons
A	11	10	10
B	10	11	11
C	10	11	10
D	11	10	11

Q30

9701/12/F/M/25/Q4

Protons, electrons and neutrons

An ion with a charge of 2[−] contains 10 electrons and 14 neutrons.

What is its nucleon number?

A 14**B** 22**C** 24**D** 26**Q31**

9701/11/M/J/24/Q4

Protons, electrons and neutrons

Which statement about $^{131}_{53}\text{I}$ is correct?

A A negative ion of $^{131}_{53}\text{I}$ contains 53 neutrons and 52 electrons.

B A negative ion of $^{131}_{53}\text{I}$ contains 53 neutrons and 54 electrons.

C A negative ion of $^{131}_{53}\text{I}$ contains 78 neutrons and 52 electrons.

D A negative ion of $^{131}_{53}\text{I}$ contains 78 neutrons and 54 electrons.

Q32

9701/11/M/J/23/Q1

Protons, electrons and neutrons

Element X has six more protons than element Y.

Which statement **must** be correct?

- A Atoms of element Y are smaller than atoms of element X.
- B Element X has a full shell of electrons.
- C Element X and element Y are in the same group.
- D Element X and element Y are in the same period.

Q33

9701/11/O/N/23/Q1

Protons, electrons and neutrons

Sodium azide, NaN_3 is an explosive used to inflate airbags in cars when they crash. It consists of positive sodium ions and negative azide ions.

What are the numbers of electrons in the sodium ion and the azide ion?

	sodium ion	azide ion
A	10	20
B	10	22
C	12	20
D	12	22

Q34

9701/12/O/N/24/Q1

Protons, electrons and neutrons

Which species contains a different number of electrons from the other three?

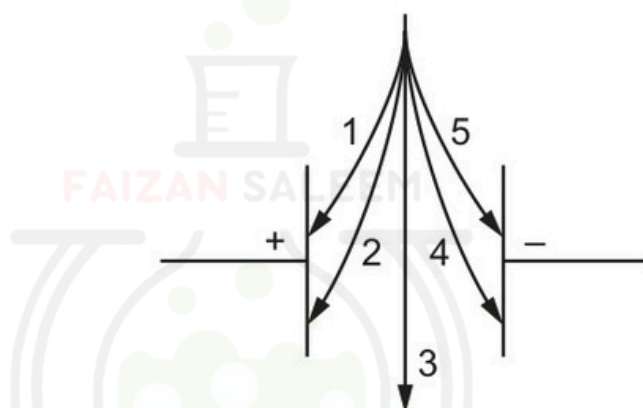
- A ClO_4^- B H_2SO_4 C SO_4^{2-} D Te^{2-}

A helium ion contains two protons, two neutrons and one electron.

This helium ion and a proton are passed separately through a uniform electric field.

The particles are travelling at the same velocity.

Which arrow describes the path of each particle?



	helium ion	proton
A	1	2
B	2	1
C	4	5
D	5	4

Ionisation energy

Q36 9701/12/F/M/21/Q13

Ionisation energy

Which row is correct?

	statement	reason
A	The first ionisation energy of phosphorus is greater than that of magnesium.	electron is lost from a 3p orbital in both cases
B	The melting point of phosphorus is greater than that of magnesium.	phosphorus has more valence electrons than magnesium
C	The atomic radius of phosphorus is smaller than that of magnesium.	phosphorus has greater nuclear charge than magnesium
D	The electrical conductivity of phosphorus is smaller than that of magnesium.	bonding changes from ionic in magnesium to covalent in phosphorus

Q37 9701/11/M/J/21/Q7

Ionisation energy

Why is the first ionisation energy of oxygen less than that of nitrogen?

- A** The nitrogen atom has its outer electron in a different subshell.
- B** The nuclear charge on the oxygen atom is greater than that on the nitrogen atom.
- C** The oxygen atom has a pair of electrons in one p orbital that repel one another.
- D** There is more shielding in an oxygen atom.

Q38 9701/12/M/J/21/Q2

Ionisation energy

Which equation represents the first ionisation energy of iodine?

- A** $\frac{1}{2}\text{I}_2(\text{g}) + \text{e}^- \rightarrow \text{I}^-(\text{g})$
- B** $\text{I}(\text{g}) + \text{e}^- \rightarrow \text{I}^-(\text{g})$
- C** $\frac{1}{2}\text{I}_2(\text{g}) \rightarrow \text{I}^+(\text{g}) + \text{e}^-$
- D** $\text{I}(\text{g}) \rightarrow \text{I}^+(\text{g}) + \text{e}^-$

Q39

9701/13/M/J/21/Q31

Ionisation energy

Which statements about first ionisation energies are correct?

- 1 They are always endothermic.
- 2 They decrease down Group 2.
- 3 They decrease across Period 3.

Which statements are correct?

- A** 1, 2 and 3 **B** 1 and 3 only **C** 2 and 3 only **D** 2 only

Q40

9701/11/O/N/21/Q3

Ionisation energy

Which of these elements has the highest fifth ionisation energy?

- A** C **B** N **C** P **D** Si

Q41

9701/12/F/M/22/Q1

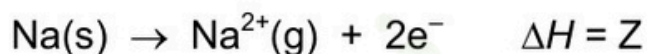
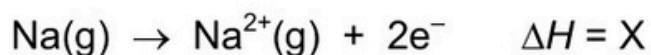
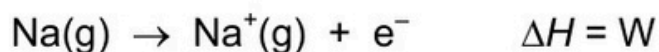
Ionisation energy

The first ionisation energy of potassium, K, is 418 kJ mol^{-1} . The first ionisation energy of strontium, Sr, is 548 kJ mol^{-1} .

Which statement helps to explain why Sr has a greater first ionisation energy than K?

- A** The charge on a Sr nucleus is greater than the charge on a K nucleus.
- B** The outer electron in a Sr atom experiences greater shielding than the outer electron in a K atom.
- C** The outer electron in a Sr atom experiences spin-pair repulsion.
- D** The outer electron in a Sr atom is further from the nucleus than the outer electron in a K atom.

Equations involving four enthalpy changes are shown.



Which equation represents the second ionisation energy of sodium?

- A** X **B** $X + Y - W$ **C** $X - W$ **D** $Z - W$

Which row is correct?

	element with the greater fifth ionisation energy	element with an amphoteric oxide
A	aluminium	aluminium only
B	aluminium	both aluminium and phosphorus
C	phosphorus	aluminium only
D	phosphorus	both aluminium and phosphorus

For the element sulfur, which pair of ionisation energies has the largest difference between them?

- A** third and fourth ionisation energies
B fourth and fifth ionisation energies
C fifth and sixth ionisation energies
D sixth and seventh ionisation energies

Why is the first ionisation energy of phosphorus greater than the first ionisation energy of silicon?

- A A phosphorus atom has one more proton in its nucleus.
- B The atomic radius of a phosphorus atom is greater.
- C The outer electron in a phosphorus atom is more shielded.
- D The outer electron in a phosphorus atom is paired.

T is an element in Period 3.

The first ionisation energy of T is lower than that of the element with one less proton.

The oxide of T does not react with water.

What is the identity of T?

- A aluminium
- B silicon
- C sodium
- D sulfur

Which statement about the first ionisation energies of magnesium and neon is correct?

- A Magnesium has the greater numerical value and both are endothermic.
- B Magnesium has the greater numerical value and both are exothermic.
- C Neon has the greater numerical value and both are endothermic.
- D Neon has the greater numerical value and both are exothermic.

Which factor causes helium to have a higher first ionisation energy than hydrogen?

- A In the 1s orbital in helium, electrons are paired.
- B The lowest energy level in helium is filled.
- C The nuclear charge in helium is higher than in hydrogen.
- D There is less shielding of the outer shell in helium.

The table shows the first five ionisation energies of element X.

element	ionisation energy / kJ mol^{-1}				
	1st	2nd	3rd	4th	5th
X	736	1450	7740	10 500	13 600

Element X is in Period 3 of the Periodic Table.

What is element X?

- A sodium
- B magnesium
- C silicon
- D argon

In this question Q is used to represent a halogen atom.

Magnesium and calcium each form a compound with chlorine and a compound with bromine.

One of these compounds contains:

- the element in Group 2 with the higher first ionisation energy **and**
- the element in Group 17 with the higher Q–Q bond energy.

What is the formula of this compound?

- A MgCl_2
- B MgBr_2
- C CaCl_2
- D CaBr_2

Three statements about potassium and chlorine and their ions are listed.

- 1 The atomic radius of a potassium atom is greater than the atomic radius of a chlorine atom.
- 2 The first ionisation energy of potassium is greater than the first ionisation energy of chlorine.
- 3 The ionic radius of a potassium ion is greater than the ionic radius of a chloride ion.

Which statements are correct?

- A** 1 only **B** 2 only **C** 1 and 3 **D** 2 and 3

Why is the second ionisation energy of sodium larger than the second ionisation energy of magnesium?

- A** The attraction between the nucleus and the outer electron is greater in Na^+ than in Mg^+ .
B The nuclear charge of Na^+ is greater than that of Mg^+ .
C The outer electron of Na^+ is more shielded than the outer electron of Mg^+ .
D The outer electron of Na is in the same orbital as the outer electron of Mg.

This question is about the first ionisation energies of magnesium and neon.

Which row is correct?

	first ionisation energy	type of electron removed	
		from Mg	from Ne
A	Mg > Ne	p	s
B	Mg > Ne	s	p
C	Ne > Mg	p	s
D	Ne > Mg	s	p

X and Y are elements from the same group of the Periodic Table.

The 5th to 9th ionisation energies for X and Y are shown.

	ionisation energy / kJ mol^{-1}				
	5th	6th	7th	8th	9th
element X	11 020	15 160	17 870	92 040	106 437
element Y	6 540	9 360	11 020	33 360	38 600

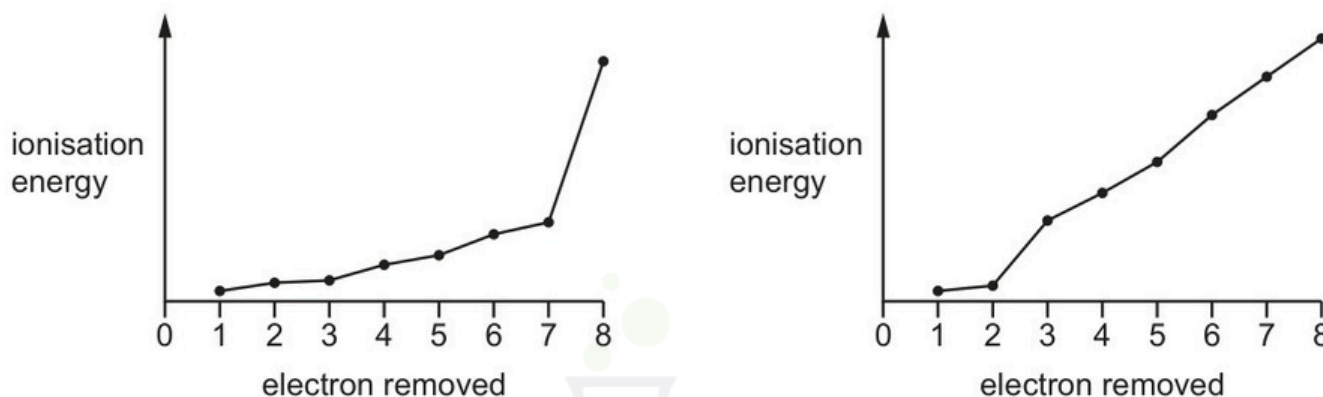
Which row identifies elements X and Y?

	element X	element Y
A	argon	neon
B	chlorine	fluorine
C	fluorine	chlorine
D	neon	argon

Which statement is correct?

- A** The first ionisation energy of chlorine is more than the first ionisation energy of argon.
- B** The second ionisation energy of calcium is more than the second ionisation energy of magnesium.
- C** The second ionisation energy of sulfur is equal to the first ionisation energy of phosphorus.
- D** The eighth ionisation energy of chlorine is more than the first ionisation energy of neon.

The first eight successive ionisation energies for two elements of Period 3 of the Periodic Table are shown in the graphs.



What is the formula of the ionic compound formed from these elements?

- A** MgCl_2 **B** CaBr_2 **C** Na_2S **D** K_2Se

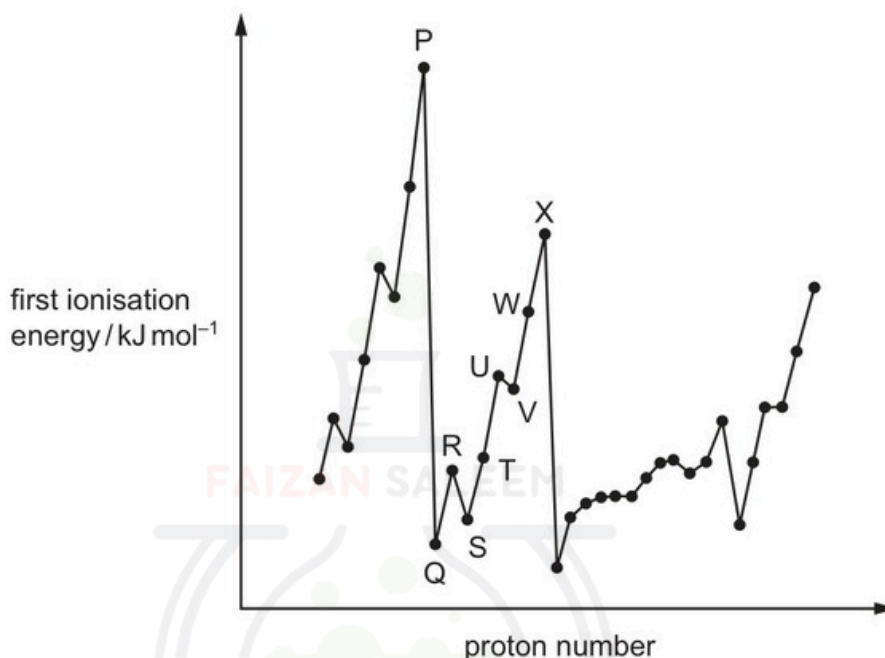
The data in the table gives the 5th to the 10th ionisation energies of three elements from Period 3 of the Periodic Table.

element	ionisation energy / kJ mol^{-1}					
	5th	6th	7th	8th	9th	10th
X	6274	21 269	25 398	29 855	35 868	40 960
Y	7012	8 496	27 107	31 671	36 579	43 140
Z	6542	9 362	11 018	33 606	38 601	43 963

What are the correct identities of these three elements?

	element X	element Y	element Z
A	Na	Mg	Al
B	Mg	Al	Si
C	P	S	Cl
D	S	Cl	Ar

The graph shows the variation of the first ionisation energy with proton number for some elements. The letters used are **not** the actual symbols for the elements.



Which statement about the elements is correct?

- A P and X are in the same period in the Periodic Table.
- B The general increase from Q to X is due to increasing atomic radius.
- C The small decrease from R to S is due to decreased shielding.
- D The small decrease from U to V is due to repulsion between paired electrons.

Z is a compound of two elements, X and Y.

Element X shows a very large increase between its 5th and 6th ionisation energies. It has the second largest 1st ionisation energy in its group.

Element Y shows a very large increase between its 6th and 7th ionisation energies. It has the largest 1st ionisation energy in its group.

What is compound Z?

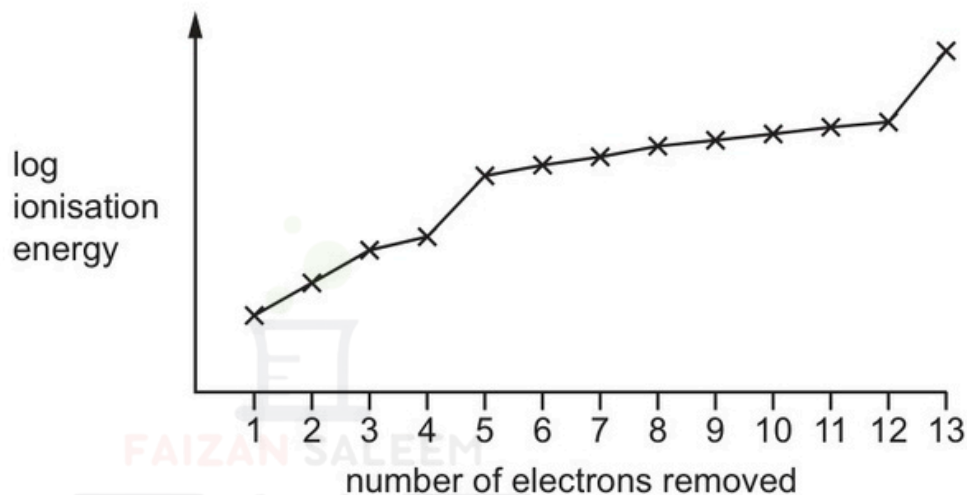
- A NO_2
- B PCl_5
- C P_4O_{10}
- D SF_6

Q60

9701/14/M/J/25/Q1

Ionisation energy

The diagram shows the logarithm of the first 13 ionisation energies of an element.



Which statement is correct?

- A A proton is lost for each successive ionisation energy.
- B The element is aluminium.
- C The element is silicon.
- D The element has only one outer electron.

Q61

9701/11/M/J/23/Q12

Ionisation energy

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

Which process has the largest enthalpy change per mole?

- A $\text{Al}^{3+}(\text{g}) \rightarrow \text{Al}^{4+}(\text{g}) + \text{e}^{-}$
- B $\text{P}^{5+}(\text{g}) \rightarrow \text{P}^{6+}(\text{g}) + \text{e}^{-}$
- C $\text{S}^{6+}(\text{g}) \rightarrow \text{S}^{7+}(\text{g}) + \text{e}^{-}$
- D $\text{Si}^{4+}(\text{g}) \rightarrow \text{Si}^{5+}(\text{g}) + \text{e}^{-}$

The second ionisation energy of oxygen is greater than the second ionisation energy of fluorine.

Which factor explains this difference?

- A The atomic radius of an oxygen atom is smaller than that of fluorine.
- B The covalent bond in a fluorine molecule is weaker than the bond in an oxygen molecule.
- C A spin-paired electron is removed from fluorine but **not** from oxygen.
- D Fluorine has more electrons in total than oxygen. This causes a greater shielding of the nuclear attraction in fluorine.

Which statement is correct?

- A The atomic radius of silicon is larger than that of aluminium.
- B The boiling point of chlorine is higher than that of silicon.
- C The first ionisation energy of sulfur is greater than that of phosphorus.
- D The electrical conductivity of magnesium is greater than that of sodium.

MARKING SCHEME

ATOMIC STRUCTURE

No.	Reference	Answer
1	9701/12/F/M/21/Q2	D
2	9701/11/M/J/21/Q2	C
3	9701/13/M/J/21/Q3	C
4	9701/11/O/N/21/Q4	B
5	9701/12/O/N/21/Q4	B
6	9701/12/F/M/22/Q2	A
7	9701/12/M/J/22/Q2	A
8	9701/13/M/J/22/Q1	D
9	9701/11/O/N/22/Q3	D
10	9701/13/M/J/25/Q1	A
11	9701/12/M/J/24/Q6	A
12	9701/11/O/N/25/Q1	B
13	9701/12/F/M/24/Q18	C
14	9701/11/O/N/23/Q17	D
15	9701/14/M/J/25/Q9	D
16	9701/11/M/J/25/Q4	C

No.	Reference	Answer
17	9701/12/F/M/21/Q1	A
18	9701/12/M/J/21/Q31	B
19	9701/12/O/N/21/Q3	C
20	9701/12/O/N/21/Q21	A
21	9701/11/M/J/22/Q2	B
22	9701/12/O/N/22/Q3	D
23	9701/11/O/N/22/Q23	C
24	9701/12/M/J/25/Q2	C
25	9701/12/F/M/23/Q12	C
26	9701/12/O/N/23/Q1	D
27	9701/14/O/N/25/Q1	B
28	9701/12/F/M/24/Q1	D
29	9701/13/M/J/24/Q3	A
30	9701/12/F/M/25/Q4	B
31	9701/11/M/J/24/Q4	D
32	9701/11/M/J/23/Q1	B

No.	Reference	Answer
33	9701/11/O/N/23/Q1	B
34	9701/12/O/N/24/Q1	D
35	9701/12/M/J/25/Q14	C
36	9701/12/F/M/21/Q13	C
37	9701/11/M/J/21/Q7	C
38	9701/12/M/J/21/Q2	D
39	9701/13/M/J/21/Q31	B
40	9701/11/O/N/21/Q3	A
41	9701/12/F/M/22/Q1	A
42	9701/12/M/J/22/Q1	C
43	9701/13/M/J/22/Q18	A
44	9701/11/O/N/22/Q4	D
45	9701/12/O/N/22/Q1	A
46	9701/12/O/N/22/Q25	A
47	9701/12/F/M/23/Q13	C
48	9701/12/O/N/24/Q2	C

No.	Reference	Answer
49	9701/14/O/N/25/Q2	B
50	9701/11/O/N/24/Q1	A
51	9701/11/M/J/23/Q3	A
52	9701/13/M/J/25/Q10	A
53	9701/13/M/J/24/Q4	D
54	9701/12/F/M/25/Q3	C
55	9701/12/M/J/23/Q3	D
56	9701/12/M/J/24/Q3	A
57	9701/11/O/N/25/Q2	C
58	9701/11/O/N/23/Q2	D
59	9701/11/M/J/24/Q3	C
60	9701/14/M/J/25/Q1	C
61	9701/11/M/J/23/Q12	A
62	9701/12/F/M/24/Q2	C
63	9701/12/O/N/23/Q2	C
64	9701/11/M/J/24/Q18	D