

Which statement about an atom of fluorine, $^{19}_9\text{F}$, is correct?

- A** It contains more protons than neutrons.
- B** It contains a total of 28 protons, neutrons and electrons.
- C** Its isotopes contain different numbers of protons.
- D** Its nucleus contains 9 neutrons.

5 Which number is different for isotopes of the same element?

- A** number of electrons
- B** number of full shells
- C** number of nucleons
- D** number of protons

6 Which atom has two more electrons than an atom of a noble gas?

- A** aluminium
- B** bromine
- C** calcium
- D** rubidium

Notes: 2 more electrons in an atom, also means there is 2 more protons in the atom.

10 For each atom of carbon present in a molecule, there is an equal number of atoms of oxygen but twice as many atoms of hydrogen.

What is the formula of the molecule?

- A** $\text{C}_2\text{H}_2\text{O}_2$ **B** $\text{C}_2\text{H}_2\text{O}_4$ **C** $\text{C}_2\text{H}_4\text{O}_2$ **D** $\text{C}_2\text{H}_6\text{O}$

Chapter 8 – Past year exam questions

9 Which change to an atom occurs when it forms a positive ion?

- A It gains electrons.
- B It gains protons.
- C It loses electrons.
- D It loses protons.

An element S has the proton number 18. The next element in the Periodic Table is an element T.

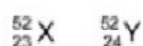
Which statement is correct?

- A Element T has one more electron in its outer shell than element S.
- B Element T has one more electron shell than element S.
- C Element T is in the same group of the Periodic Table as element S.
- D Element T is in the same period of the Periodic Table as element S.

Which numbers are added together to give the nucleon number of an ion?

- A number of electrons + number of neutrons
- B number of electrons + number of protons
- C number of electrons + number of protons + number of neutrons
- D number of protons + number of neutrons

The symbols of two atoms may be written as shown.



Which statement about these atoms is correct?

- A They are different elements because they have different numbers of neutrons.
- B They are different elements because they have different numbers of protons.
- C They are isotopes of the same element because they have the same nucleon number.
- D They are isotopes of the same element because they have the same proton number.

The electronic configuration of an ion is 2.8.8.

What could this ion be?

	S^{2-}	Ca^{2+}
A	✓	✓
B	✓	✗
C	✗	✓
D	✗	✗

Topic 2: Atoms and Elements

Which element has the atomic structure shown?

key

- e electron
- n neutron
- nucleus

A Al **B** P **C** S **D** Si

Elements in Group I of the Periodic Table react with water.

Which row describes the products made in the reaction and the trend in reactivity of the elements?

	Products	Trend in reactivity
A.	metal hydroxide and hydrogen	Less reactive down the group
B.	metal hydroxide and hydrogen	More reactive down the group
C.	metal oxide and hydrogen	Less reactive down the group
D.	metal oxide and hydrogen	more reactive down the group