

ATOMIC STRUCTURE HW3

1 An atom of sodium is represented by $^{23}_{11}\text{Na}$.

What is the number of electrons in this atom?

- A 11 B 12 C 23 D 34

2 What particles are present in the nucleus of the oxygen nuclide $^{17}_8\text{O}$?

	neutrons	protons
A	8	9
B	9	17
C	9	8
D	17	8

3 An isotope of element X is represented by $^{19}_9\text{X}$.

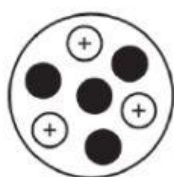
What is the electronic structure of X?

- A 2,8,8,1 B 2,7 C 2,8 D 2,8,18

4 How many electrons are in the outer shell of an atom of $^{11}_5\text{B}$?

- A 3 B 5 C 6 D 11

5 The diagram represents a nucleus of element X.



key

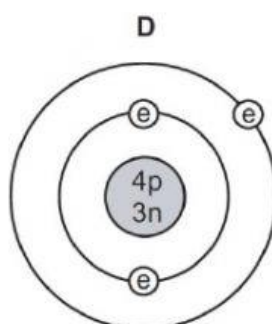
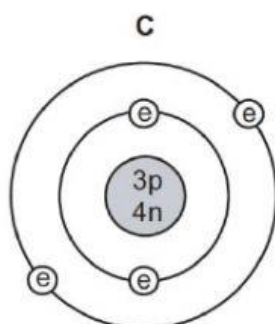
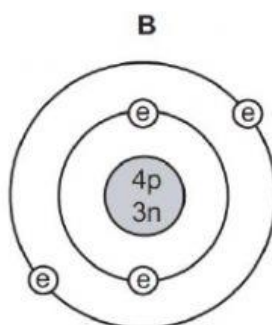
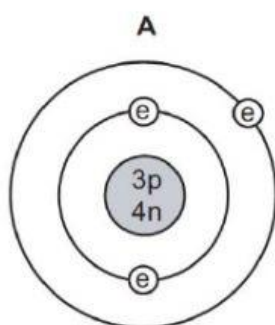
⊕ proton

● neutron

What represents the nuclide of this element?

- A ^3_4X B ^4_3X C ^7_3X D ^7_4X

6 Which diagram shows the structure of a ^7_3Li atom?



key

p = proton

n = neutron

e = electron

7 The table shows the electronic structures of five elements, V, W, X, Y and Z.

The letters are not their chemical symbols.

element	electronic structure
V	2.2
W	2.7
X	2.8.2
Z	2.8.8

Which elements are in the same group?

A V and W B V and X C W and Z D X and Z

8 What is used to decide the order of the elements in the Periodic Table?

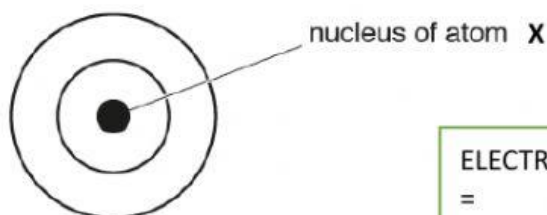
- A density
B number of neutrons
C number of protons
D relative atomic mass

9 Some information about three different atoms X, Y and Z is shown in Table 9.1.

Table 9.1

atom	number of protons	number of neutrons	number of electrons
X	8	8	8
Y	8	9	8
Z	8	10	8

(b) WRITE the electronic configuration of atom X in the box given below.



ELECTRONIC CONFIGURATION OF X
=

Fig. 9.1

[1]

(c) Use the Periodic Table to identify the element of atom X

[1]

