The Periodic Table

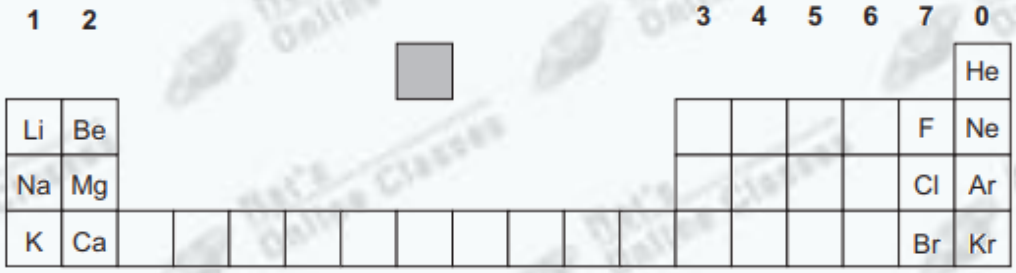
Total mark – 15

Question: 1

2 Use the Chemistry Data Sheet to help you answer this question.

Figure 2 shows part of the periodic table.

Figure 2



2 (a) Give the name of the element that should be in the shaded box.

[1 mark]

_____

2 (b) How many different elements are there in the complete periodic table?

[1 mark]

Tick (✓) **one** box.

About 36 ☐

About 100 ☐

About 500 ☐

2 (c) What are **two** reasons why lithium, sodium and potassium are in the same group of the periodic table?

[2 marks]

Tick (✓) **two** boxes.

- Low melting points ☐
- Same number of electrons in the outer shell ☐
- Similar atomic (proton) numbers ☐
- Similar chemical reactions ☐
- Two electrons in the innermost shell ☐

2 (d) Complete each sentence.

[2 marks]

The elements in Group 0 are called _____ gases.

The elements in the central block are known as _____ metals.

2 (e) Use the correct word from the box to complete each sentence.

[2 marks]

alloys	**ions**	**molecules**	**polymers**	**protons**

Atoms of fluorine gain electrons to form fluoride _____ .

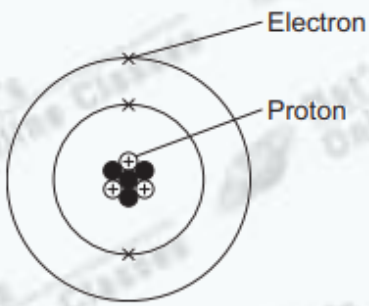
Atoms of fluorine share electrons to form fluorine _____ .

Question: 2

1 There are eight elements in the second row (lithium to neon) of the periodic table.

1 (a) **Figure 1** shows a lithium atom.

Figure 1



1 (a) (i) What is the mass number of the lithium atom in **Figure 1**?

[1 mark]

Tick (✓) **one** box.

3 ☐

4 ☐

7 ☐

1 (a) (ii) What is the charge of an electron?

[1 mark]

Tick (✓) **one** box.

–1 ☐

0 ☐

+1 ☐

1 (a) (iii) Protons are in the nucleus.

Which other sub-atomic particles are in the nucleus?

[1 mark]

Tick (✓) **one** box.

ions ☐

molecules ☐

neutrons ☐

1 (b) What is **always** different for atoms of different elements?

[1 mark]

Tick (✓) **one** box.

number of neutrons ☐

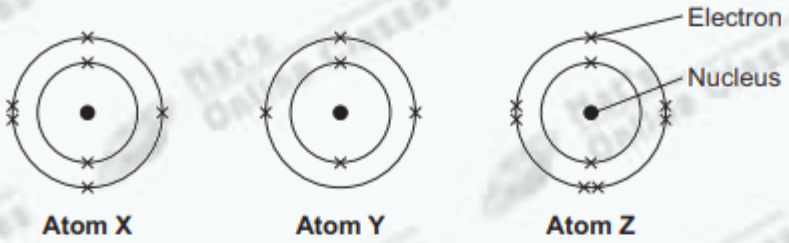
number of protons ☐

number of shells ☐

1 (c) **Figure 2** shows the electron arrangements of three different atoms, **X**, **Y** and **Z**.

These atoms are from elements in the second row (lithium to neon) of the periodic table.

Figure 2



Which atom is from an element in Group 3 of the periodic table?

[1 mark]

Tick (✓) **one** box.

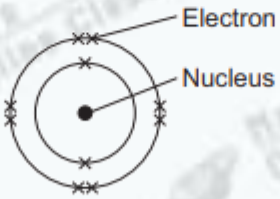
Atom X ☐

Atom Y ☐

Atom Z ☐

1 (d) **Figure 3** shows the electron arrangement of a different atom from an element in the second row of the periodic table.

Figure 3



1 (d) (i) Give the chemical symbol of this element.

[1 mark]

_____

1 (d) (ii) Why is this element unreactive?

[1 mark]

_____