Atomic structure

1. (a) Atoms are made of sub-atomic particles. Complete the **six** spaces in the table.

Name of sub-atomic particle	Relative mass	Relative charge
....	Very small	....
Neutron	....	....
....	1	....

(3)

(b) Complete the spaces in the sentences.

(i) The atomic number of an atom is the number of .... in its

nucleus and is equal to the number of .... if the

atom is not charged.

(1)

(ii) The mass number of an atom is the total number of .... and

.... in its nucleus.

(1)
(Total 5 marks)

2. The diagrams show three *isotopes* of potassium.
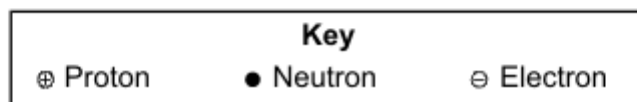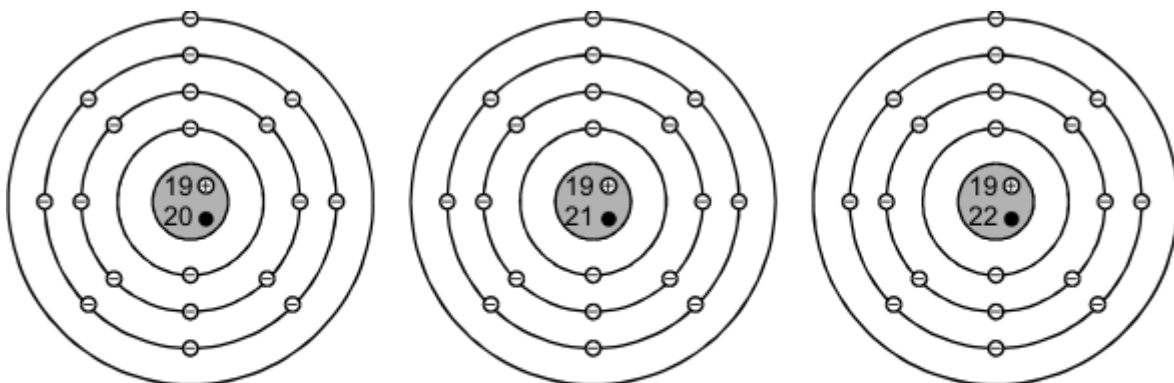
(i) In what way does the atomic structure show you that they are all **atoms**?

....

....

(1)

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(ii) Explain why these three atoms are called *isotopes* of potassium.

....

....

....

....

....

....

(3)

(Total 4 marks)

3. Iron is an essential part of the human diet. Iron(II) sulfate is sometimes added to white bread flour to provide some of the iron in a person's diet.

(a) The formula of iron(II) sulfate is $FeSO_4$

Calculate the relative formula mass (M_r) of $FeSO_4$

Relative atomic masses: O = 16; S = 32; Fe = 56.

....

....

The relative formula mass (M_r) = ...

(2)

(b) What is the mass of one mole of iron(II) sulfate? Remember to give the unit.

....

(1)

(Total 3 marks)