

1 Atoms and ions are made from particles called electrons, neutrons and protons.

(a) Complete Table 1.1.

Table 1.1

particle	relative charge	relative mass
electron	-1	$\frac{1}{1840}$
neutron		
proton		

[2]

(b) Table 1.2 shows information about some atoms or ions.

Complete Table 1.2.

Table 1.2

atom or ion	number of electrons	number of neutrons	number of protons
${}^{40}_{20}\text{Ca}^{2+}$		20	20
${}^{19}_9\text{F}$	9		9
	10	9	8

[5]

(c) (i) The relative atomic mass, A_r , of an element is the average mass of its isotopes compared to one atom of isotope X.

Identify isotope X.

..... [1]

(ii) A sample of magnesium consists of two isotopes with mass numbers 24 and 26. [A_r : Mg, 24.3]

Calculate the percentage abundance of the isotope of magnesium with mass number 24.

percentage abundance = [1]