



Oxford Cambridge and RSA

**GCSE Physics B (Twenty First Century Science)**  
**J259/02** Depth in physics (Foundation Tier)

**Question Set 24**

1 Nuclear Physicists use atomic numbers and mass numbers to identify isotopes.

The table shows data on three atoms, **Atom A**, **Atom B**, and **Atom C**.

	Atom A	Atom B	Atom C
Atomic number	6	6	7
Mass number	12	14	14
Number of neutrons	6	8	7
Stable	Yes	No	Yes

(a) Complete the **two** missing values in the table.

(b) Isotopes of an element are atoms with the same number of protons but a different number of neutrons. [1]

Which **two** atoms are isotopes of the same element?

Put a (ring) around the **two** correct answers.

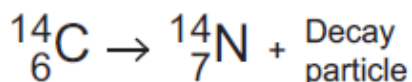
Atom A

Atom B

Atom C

[1]

(c) Carbon-14 is an unstable isotope which decays to nitrogen-14.



What is the decay particle emitted when carbon-14 decays?

Put a (ring) around the correct answer.

Alpha particle

Beta particle

Gamma ray

Neutron

[1]

## Total Marks for Question Set 24: 3

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