

- 7 Uranium-236 ($^{236}_{92}\text{U}$) and Uranium-237 ($^{237}_{92}\text{U}$) are both radioactive. Uranium-236 is an α -emitter and Uranium-237 is a β -emitter.

For
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- (a) Distinguish between an α -particle and a β -particle.

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..... [4]

- (b) The grid of Fig. 7.1 shows some proton numbers Z on the x-axis and the number N of neutrons in the nucleus on the y-axis.

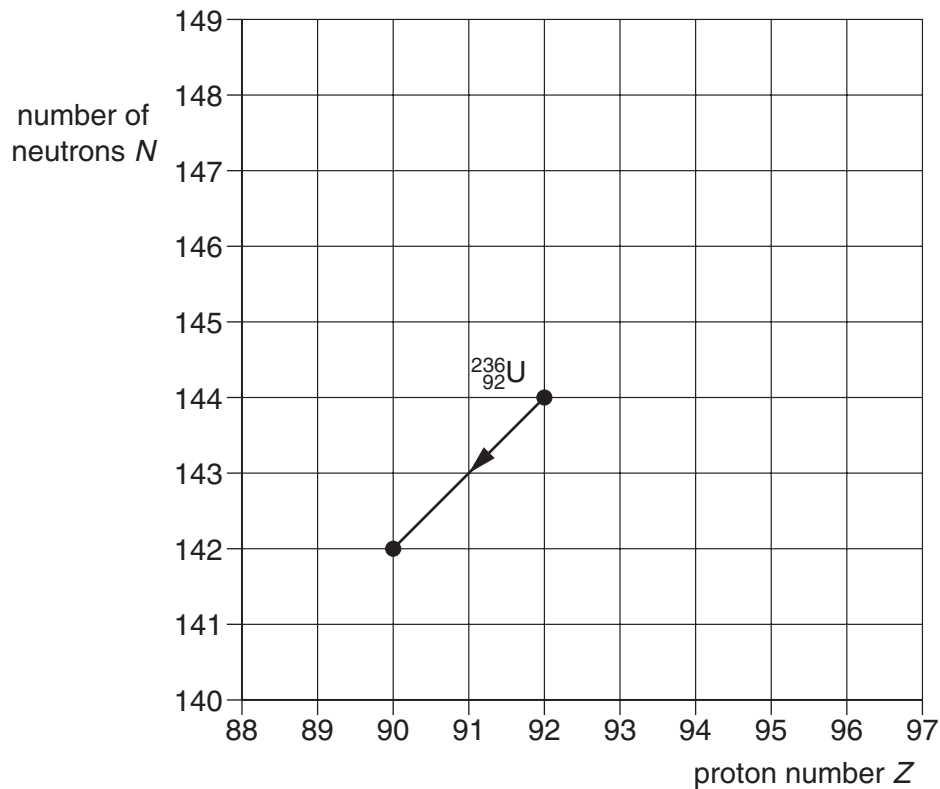


Fig. 7.1

The α -decay of Uranium-236 ($^{236}_{92}\text{U}$) is represented on the grid. This decay produces a nucleus of thorium (Th).

For
Examiner's
Use

- (i) Write down the nuclear equation for this α -decay.

.....[2]

- (ii) On Fig. 7.1, mark the position for a nucleus of

1. Uranium-237 (mark this position with the letter U),
2. Neptunium, the nucleus produced by the β -decay of Uranium-237 (mark this position with the letters Np). [2]

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