

- 7 Tungsten-184 ($^{184}_{74}\text{W}$) and tungsten-185 ($^{185}_{74}\text{W}$) are two isotopes of tungsten.

Tungsten-184 is stable but tungsten-185 undergoes β -decay to form rhenium (Re).

- (a) Explain what is meant by *isotopes*.

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..... [2]

- (b) The β -decay of nuclei of tungsten-185 is spontaneous and random.

State what is meant by

- (i) *spontaneous* decay,

.....

..... [1]

- (ii) *random* decay.

.....

..... [1]

- (c) Complete the nuclear equation for the β -decay of a tungsten-185 nucleus.



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