

**38** A nucleus W of a radioactive isotope emits a  $\beta^-$  particle and forms nucleus X.

Nucleus X emits an  $\alpha$ -particle to form nucleus Y.

Nucleus Y emits a  $\beta^-$  particle to form nucleus Z.

Which statement about Z is correct?

- A** Z is a nucleus of a different element from W and has a higher nucleon number.
- B** Z is a nucleus of a different element from W and has a lower nucleon number.
- C** Z is a nucleus of the same element as W and has a higher nucleon number.
- D** Z is a nucleus of the same element as W and has a lower nucleon number.