

- 39** An unstable nucleus of an element decays by emitting an  $\alpha$ -particle or a  $\beta^-$  particle to become a nucleus of a different element. This nucleus is also unstable and emits an  $\alpha$ -particle or a  $\beta^-$  particle. The process continues until an isotope of the original element is produced.

What is the minimum possible number of these particles emitted?

**A** 2

**B** 3

**C** 4

**D** 5