

- 39** The isotope  $^{222}_{86}\text{Rn}$  decays in a sequence of emissions to form the isotope  $^{206}_{82}\text{Pb}$ . At each stage of the decay sequence, it emits either an  $\alpha$ -particle or a  $\beta$ -particle.

What is the number of stages in the decay sequence?

- A** 4                      **B** 8                      **C** 16                      **D** 20

- 40** What is the approximate mass of a nucleus of uranium?