

**40** Radon  $^{222}_{86}\text{Rn}$  is the start of a decay chain that forms bismuth  $^{214}_{83}\text{Bi}$  by alpha and beta emission.

For the decay of each nucleus of radon, how many  $\alpha$ -particles and  $\beta$ -particles are emitted?

|          | $\alpha$ -particles | $\beta$ -particles |
|----------|---------------------|--------------------|
| <b>A</b> | 1                   | 1                  |
| <b>B</b> | 2                   | 1                  |
| <b>C</b> | 1                   | 2                  |
| <b>D</b> | 2                   | 2                  |

**Space for working**