

39 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

40 The magnitude of the charge on the proton may be regarded as 1 unit. On this basis, the