

**40** A different nucleus can be formed by bombarding a stable nucleus with an energetic  $\alpha$ -particle.

$^{23}_{11}\text{Na}$  is bombarded with an energetic  $\alpha$ -particle.

What could be the products of this nuclear reaction?

A  $^{25}_{10}\text{Ne} + \text{neutron}$

B  $^{25}_{11}\text{Na} + \text{proton}$

C  $^{26}_{12}\text{Mg} + \beta$

D  $^{27}_{13}\text{Al} + \gamma$

**Space for working**