

- 10 A proton is accelerated by a uniform electric field. After time  $t$  the speed of the proton has increased by  $\Delta v$ .

A helium nucleus  ${}^4_2\text{He}$  is accelerated by the same electric field.

After what time will the helium nucleus achieve the same change in speed?

- ☐ A  $4t$
- ☐ B  $2t$
- ☐ C  $\frac{t}{2}$
- ☐ D  $\frac{t}{4}$

(Total for Question 10 = 1 mark)