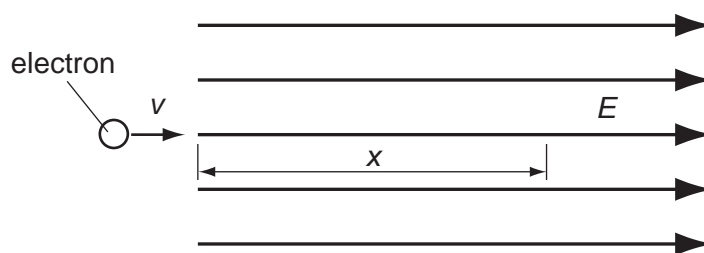


- 29 The diagram shows an electron, with charge  $e$ , mass  $m$ , and velocity  $v$ , entering a uniform electric field of strength  $E$ .



The direction of the field and the electron's motion are both horizontal and to the right.

Which expression gives the distance  $x$  through which the electron travels before it stops momentarily?

- A  $x = \frac{mv}{E}$       B  $x = \frac{mv}{Ee}$       C  $x = \frac{mv^2}{2E}$       D  $x = \frac{mv^2}{2Ee}$

- 30 Which amount of charge, flowing in the given time, will produce the largest current?

|   | charge / C    | time / s      |
|---|---------------|---------------|
| A | 4             | $\frac{1}{4}$ |
| B | 4             | 1             |
| C | 1             | 4             |
| D | $\frac{1}{4}$ | 4             |

Space for working