

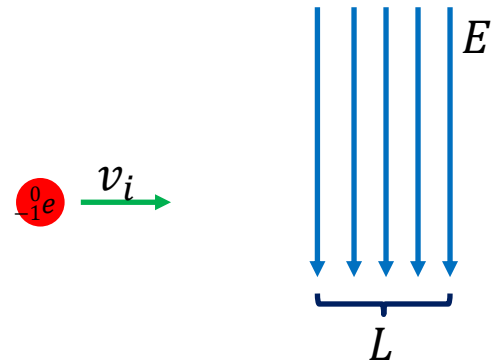
Name _____

Physics 111 Quiz #2, September 16, 2024

Please show all work, thoughts and/or reasoning to receive partial credit. The quiz is worth 10 points total, and all parts may not be of equal weight.

I affirm that I have carried out my academic endeavors with full academic honesty.

1. An electron, traveling horizontally at a speed $v_i = 4 \times 10^6 \frac{m}{s}$, encounters a region of uniform electric field. The electric field has a strength $E = 800 \frac{N}{C}$ and is directed vertically down as shown below. The electric field spans a horizontal distance $L = 10cm$. How long does the electron spend in the electric field?



2. What is the vertical displacement of the electron in the electric field?

- How much work (in Joules) was done on the electron by the electric field?
- With what speed does the electron leave the electric field?
- Through what potential difference (voltage) was the electron accelerated when moving through the electric field?