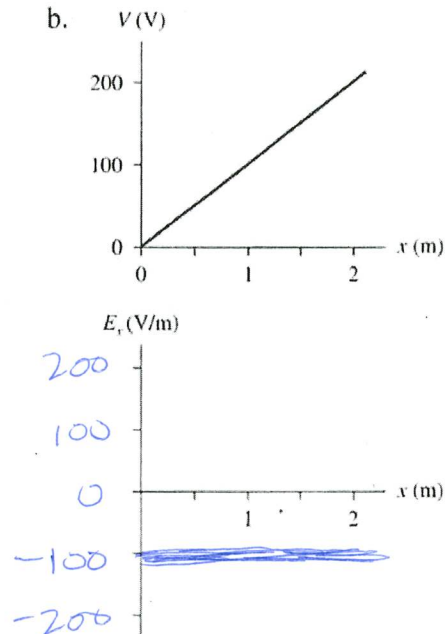
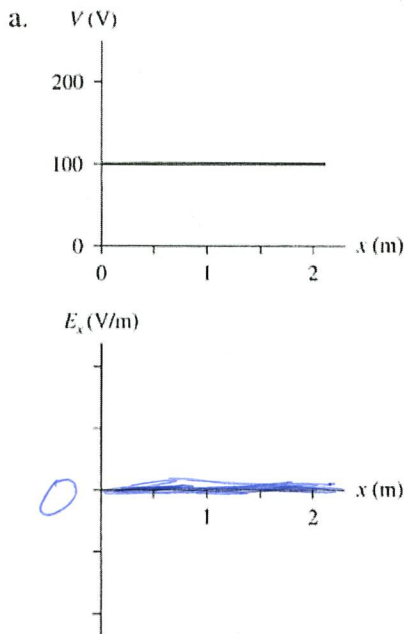


(2pts) 1.

The top graph shows the electric potential as a function of x . On the axes below the graph, draw the graph of E_x versus x in this same region of space. Add an appropriate scale on the vertical axis.



$$E_x = -\frac{dV}{dx} = -(\text{slope of } V \text{ vs } x)$$

(a) slope is zero $\therefore \bar{E}_x = 0$

(b) slope is $\frac{200 \text{ V} - 0 \text{ V}}{2 \text{ m} - 0 \text{ m}} = 100 \frac{\text{V}}{\text{m}}$

$\therefore E_x = -100 \frac{\text{V}}{\text{m}}$ (constant)