For the CRT shown find:

a) The magnitude and direction of the electric field between the deflecting plates.

b) The acceleration of the electrons while being deflected.

c) Where on the screen would the electron beam strike?
a) \[ \vec{E} = \frac{\Delta V}{d} = \frac{12 \, V}{0.080 \, m} = 150 \, \frac{V}{m} \text{ or } N/C \]

b) \[ F_{net} = ma \quad F_E = \vec{E}q \]
\[ F_E = ma \quad \Rightarrow (150 \, N/C)(1.6 \times 10^{-19} \, C) \]
\[ a = \frac{F_E}{m} = \frac{2.4 \times 10^{-17} \, N}{9.11 \times 10^{-31} \, kg} \]
\[ = 2.6 \times 10^{13} \, m/s^2 \]