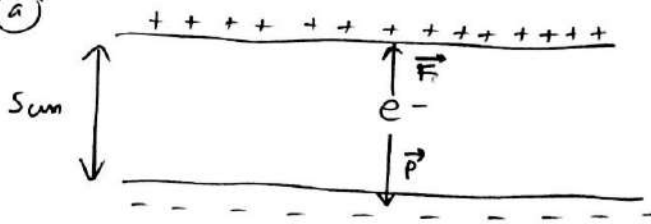


19

a



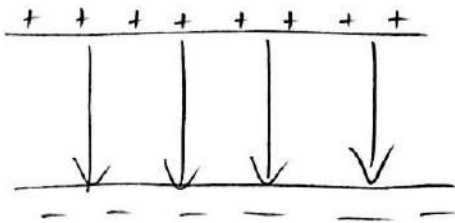
b

$$\vec{F} = \vec{E} \cdot q$$

$$|\vec{F}| = |\vec{P}|$$

$$\vec{P} = m \cdot g$$

$$|\vec{E}| = \frac{m \cdot g}{|q|} = \frac{9,1 \cdot 10^{-31} \cdot 9,8}{1,6 \cdot 10^{-19} \text{ C}} = \boxed{5,57 \cdot 10^{-11} \text{ N/C}}$$



c

$$E = - \frac{\Delta V}{\Delta x} \Rightarrow \Delta V = - \frac{E}{\Delta x} = - \frac{5,57 \cdot 10^{-11}}{5 \cdot 10^{-2}} = \boxed{-1,11 \cdot 10^{-9} \text{ V}}$$