

Question 17928

From one side, $F = m_e g$, and from the other side (from field): $F = E q_e$. These forces are equal, so $m_e g = E q_e \Rightarrow E = \frac{m_e g}{q_e}$. Knowing $g = 9.81 \text{ m/s}^2$, $m_e = 9.11 \cdot 10^{-31}$, $q_e = 1.6 \cdot 10^{-19}$, obtain $E \approx 5.6 \cdot 10^{-11} \text{ N/C}$.