

task_g8dmewbkx5ym2462_with_calculation

Student Group

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Exercise E14 Charges on a Ballon

A balloon has a charge of $Q=7\text{~}\mu\text{C}$ on its surface.

Result How many additional electrons are on the balloon?

Solution

$$\begin{aligned} & 43.7 \cdot 10^9 \text{~}\mu\text{electrons} \end{aligned}$$

$$\begin{aligned} Q &= 7\text{~}\mu\text{C} = 7 \cdot 10^{-9}\text{~}\mu\text{C} \\ n_{\text{e}} &= \frac{7 \cdot 10^{-9}\text{~}\mu\text{C}}{1.6022 \cdot 10^{-19}\text{~}\mu\text{C/electron}} = \\ & 43.7 \cdot 10^9 \text{~}\mu\text{electrons} \end{aligned}$$

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