

task_g8dmewbkx5ym2462_with_calculation

Student Group

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Exercise E1 Charges on a Ballon

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

Result How many additional electrons are on the balloon?

Solution

$$\begin{align*} & 43.7 \cdot 10^9 \text{ electrons} \end{align*}$$

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

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