

task_g8dmewbkx5ym2462_with_calculation

Student Group

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charges, ballon, chapter1 2

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

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

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

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