

2. An object has a charge of $-2.0 \mu\text{C}$. How many electrons must be removed so that the charge becomes $+3.0 \mu\text{C}$?

$$\Delta Q = Q_{\text{final}} - Q_{\text{initial}} = +3.0 \mu\text{C} - (-2.0 \mu\text{C}) = 5.0 \mu\text{C}$$

$$Q = N(-e)$$

$$N = \frac{Q}{-e} = \frac{-5.0 \times 10^{-6} \text{C}}{-1.6 \times 10^{-19} \text{C}} = 3.125 \times 10^{13} e^{-}$$

$N = 3.1 \times 10^{13} e^{-}$

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