task_239xqp7zjr32bv4a_with_calculation

Student Group

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Table of Contents

conversions, speed, energy, power, chapter1 1

Exercise E13 Conversions: Speed, Energy, and Power

[illegible] has the charge of about $1.6 \cdot 10^{-19}{\rm C}$)

1. A vehicle speed of $80.00~{\rm {km}\over{h}}$ in ${\rm {m}\over{s}}$

Solution

Fast Solution

$$\begin{align*} v &= 80~{\rm {km}\over{h}} = 80~{\rm {1'000~m}\over{3'600~s}} = 80~{\rm {m}\over{3.6~s}} \\ &= 22.22~{\rm {m}\over{s}} \end{align*}$$

[illegible]

$$W_{\rm absorbed} = 1~{\rm µW} \cdot 864'000~{\rm s} = 864'000~{\rm µWs} = 864~{\rm mWs} = 0.864~{\rm Ws} = 0.864~{\rm J}$$