task_239xqp7zjr32bv4a_with_calculation

Student Group

First Name	Surname	Matrikel Nr.

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Exercise E1 Conversions: Speed, Energy, and Power

[illegible] \rm
[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*} [illegible] \end{align*}
{1'000~m}\over{3'600~s}} = 80~{\rm {m}\over{3.6~s}} \\ &= 22.22~{\rm
{m}\over{s}} \end{align*}
\begin{align*} [illegible] \cdot
[illegible] &= 715
[illegible] &= 864'000~{\rm s} \\ 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} \end{align*}