

# task\_f64r8g2jf4pdomfi\_with\_calculation

## Student Group

First Name	Surname	Matrikel Nr.

## Table of Contents

Exercise E1 Conversion: Energy, Power and Area .....	2
--	---

conversions, energy, power, area, chapter1 1

**Exercise E1 Conversion: Energy, Power and Area**

2. The solar panels and battery of the car are produced in Germany. The average 100 km drive per day and an usable battery capacity of 60 kWh. Solar panels produces per \$1 m^2\$ in average in December 0.2 kWh/m^2. The car is driven 50 km per day. The size of a distinct solar module with 460 Wp (Watt peak) is 1.9 m times 1.1 m.

```

\begin{align*}
W &= 460 \text{ (Watt)} \\
A &= 1.9 \text{ (m)} \cdot 1.1 \text{ (m)} \\
\end{align*}

```

.. What is the average power consumption of the car per day?

```

\begin{align*}
A &= 20 \text{ (panel)} \cdot 460 \text{ (W)} \\
W &= 9200 \text{ (W)} \\
\end{align*}

```

solution {2} } \over { 2.0 ~ { \rm m } ^ { 2 } } \text{ panel } } \Rightarrow 19.04 ~ { \rm panels } \rightarrow 20 ~ { \rm panels } \end{align\*}

```

\begin{align*}
\frac{W}{l} &= \frac{16 \text{ kWh}}{100 \text{ km}} = 0.16 \\
\frac{\sim \text{ kWh}}{\sim \text{ km}} & \\
W &= 50 \text{ km} \cdot 0.16 \frac{\sim \text{ kWh}}{\sim \text{ km}} = 8 \text{ kWh} \end{align*}

```

From: <https://mexle.te.hs-heilbronn.de/> - MEXLE Wiki

Permanent link: [https://mexle.te.hs-heilbronn.de/ee1/task\\_f64r8g2jf4pdomfi\\_with\\_calculation?rev=1689940589](https://mexle.te.hs-heilbronn.de/ee1/task_f64r8g2jf4pdomfi_with_calculation?rev=1689940589)

Last update: 2023/07/21 13:56

