

# task\_f64r8g2jf4pdomfi\_with\_calculation

## Student Group

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conversions, energy, power, area, chapter1 1

## Exercise E1 Conversion: Energy, Power and Area

2. **Result** The car has an average 100~{\rm km} per day and an usable battery capacity of 60~{\rm kWh}. Solar panels produces per \$1~{\rm m}^2\$ in average in December \$0.2~{\{ {\rm kWh} \} \over { {\rm m}^2 }}\$\$. The car is driven 50~{\rm km} per day. The size of a distinct solar module with 460~{\rm W\_p} (watt peak) is 1.9~{\rm m} \times 1.1~{\rm m} \$.

$$A = \frac{1}{2} \frac{1}{\sin \theta} \frac{d\theta}{d\lambda} \quad \text{for } \theta = 90^\circ$$

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

$$P_{\text{avg}} = \frac{P_{\text{idle}} + P_{\text{trans}}}{2} = \frac{0.1 \text{ W} + 0.5 \text{ W}}{2} = 0.3 \text{ W}$$
$$\text{solution}\{2\}}\text{over}\{2.0\sim\{\rm m\ m^{\{2\}}\}\text{panel}\}}\text{rightarrow}19.04\sim\{\rm panels\}\ \text{rightarrow}20\sim\{\rm panels\}\ \text{end}\{align^*\}$$

$$\begin{aligned} \frac{W}{l} &= \frac{16 \sim \text{kmWh}}{100 \sim \text{km}} = 0.16 \\ \frac{\sim \text{kmWh}}{\sim \text{km}} \parallel W &= 50 \sim \text{km} \cdot 0.16 \frac{\sim \text{kmWh}}{\sim \text{km}} = 8 \sim \text{kmWh} \end{aligned}$$

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