

# task\_bln2sqhr55mlxrj3\_with\_calculation

## Student Group

First Name	Surname	Matrikel Nr.

## Table of Contents

Exercise E3 Conversion: Vacuum Cleaner ..... 2

[conversion](#), [power](#), [energy](#), [chapter1 1](#)

### Exercise E3 Conversion: Vacuum Cleaner

Your  $18\text{~}\{\text{V}\}$  vacuum cleaner is equipped with a  $4.0\text{~}\{\text{Ah}\}$  battery, it runs  $15\text{~}\{\text{min}\}$ .

How much electrical power is consumed by the motor during this time on average?

Solution:  $288\text{~}\{\text{W}\}$

$$\begin{aligned} W &= 18\text{~}\{\text{V}\} \cdot 4.0\text{~}\{\text{Ah}\} = 72\text{~}\{\text{Wh}\} \\ t &= 15\text{~}\{\text{min}\} = 0.25\text{~}\{\text{h}\} \\ P &= \frac{W}{t} = \frac{72\text{~}\{\text{Wh}\}}{0.25\text{~}\{\text{h}\}} = 288\text{~}\{\text{W}\} \end{aligned}$$

From:  
<https://wiki.mexle.org/> - MEXLE Wiki

Permanent link:  
[https://wiki.mexle.org/ee1/task\\_bln2sqhr55mlxrj3\\_with\\_calculation](https://wiki.mexle.org/ee1/task_bln2sqhr55mlxrj3_with_calculation)

Last update: **2023/04/03 12:25**

