

# aufgabe\_2.7.9

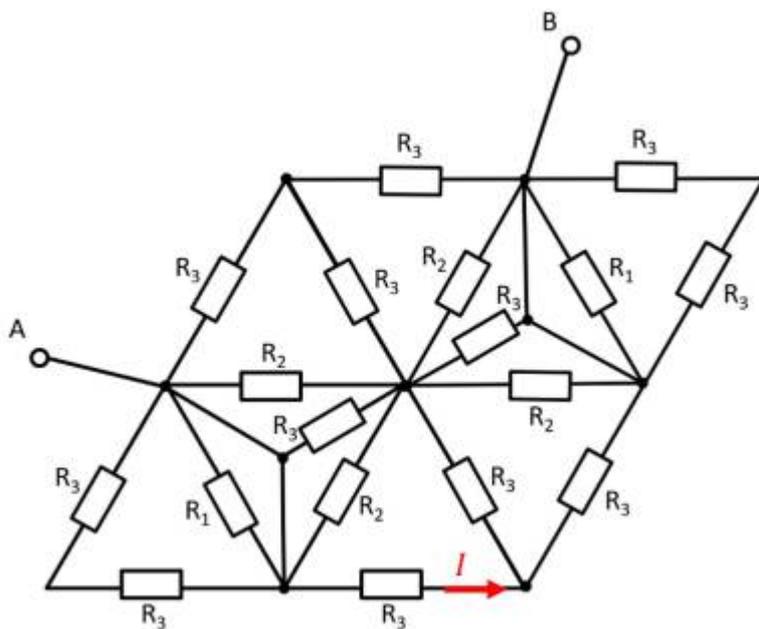
## Student Group

First Name	Surname	Matrikel Nr.

## Table of Contents

Exercise 2.7.9 - Variation: Simplifying Circuits II (written exam task, approx 8% of a 60 minute written exam, WS2020) ..... 2

**Exercise 2.7.9 - Variation: Simplifying Circuits II (written exam task, approx 8% of a 60 minute written exam, WS2020)**



Given is the adjoining circuit with

$$R_1 = 10 \Omega$$

$$R_2 = 20 \Omega$$

$$R_3 = 5 \Omega$$

1. determine the equivalent resistance  $R_{eq}$  between A and B by summing the resistances.

Final result

$$R_{ges} = \frac{20 \Omega \cdot 5 \Omega}{\frac{3}{2} \cdot 20 \Omega + 5 \Omega} = 2.858 \Omega \rightarrow 2.9 \Omega$$

2. now let the voltage from A to B be:  $U_{AB} = U_0 = 10 V$ . What is the current  $I$ ?

Final result

$$I = \frac{10V}{2 \cdot 5 \Omega} = 1 A$$

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

Permanent link: [https://wiki.mexle.org/electrical\\_engineering\\_1/aufgabe\\_2.7.9?rev=1633724806](https://wiki.mexle.org/electrical_engineering_1/aufgabe_2.7.9?rev=1633724806)

Last update: 2021/10/08 22:26

