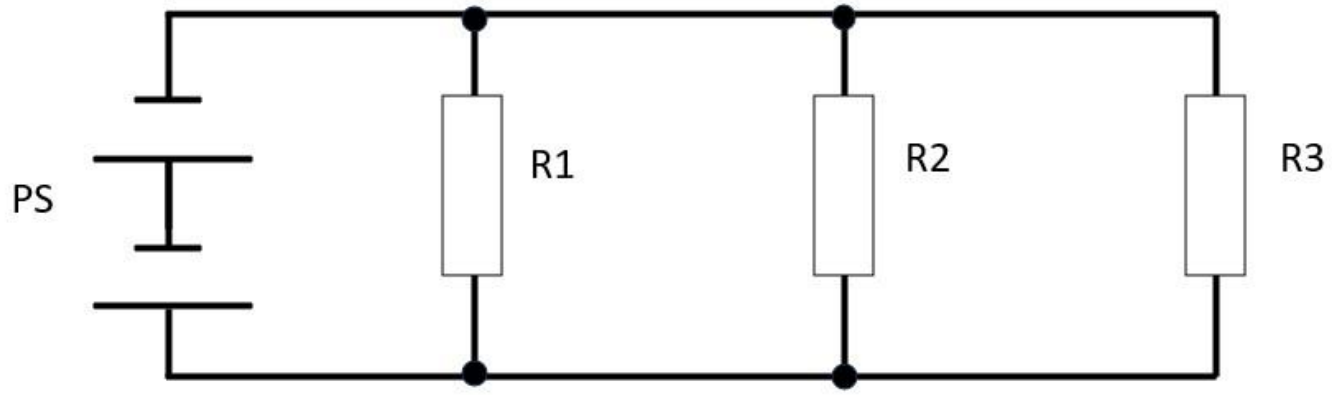
Jules' Workshop

Standard

Unit 4 - QUESTIONS

Q1. Refer to Figure 1 and calculate the currents and populate Table 1 with the results.



Question	PS	R1	R2	R3
1	10 V	100 Ω	100 Ω	100 Ω
2	15 V	10 MΩ	5 MΩ	1 MΩ
3	100 V	1 KΩ	20 Ω	1 kΩ

$I_{Total}\ In$	I_{R1}	I_{R2}	I_{R3}	$I_{Total}\ Out$

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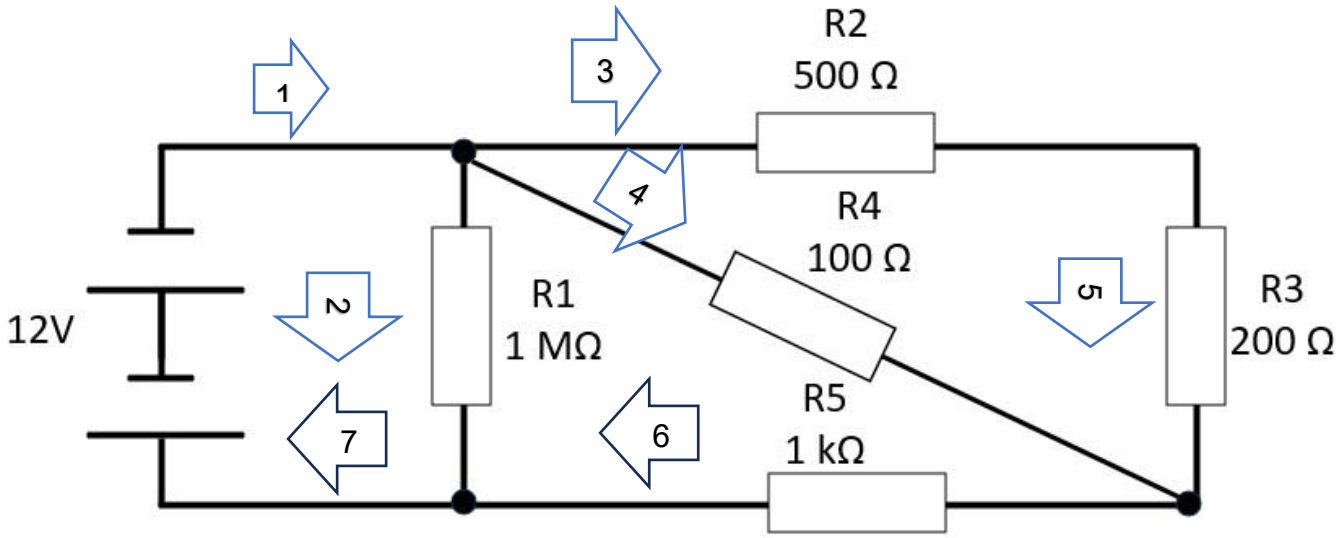
Q2

Prove Kirchhoff/s current law.



Hint: Redraw the equivalent circuit. First work on the resitors away from the power supply.

1	2	3	4	5	6	7
11 mA	12 µA					11 mA

3 and 4 current = 11 mA – 12 µA

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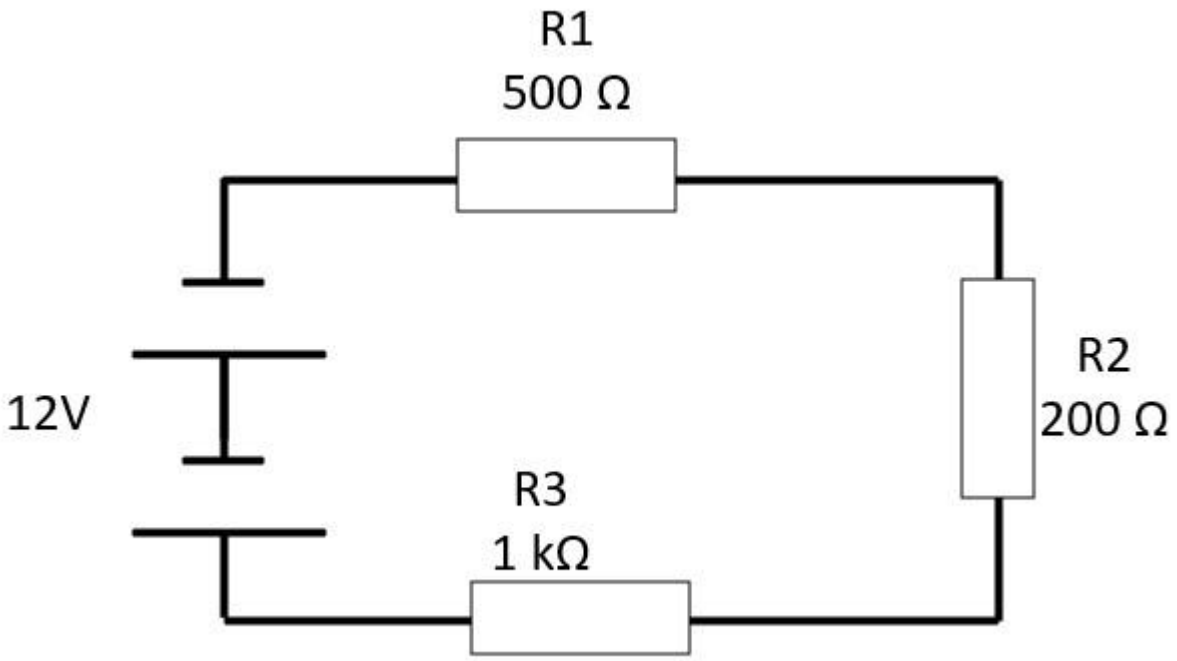
Q3



V in	V R1	V R2	V R3	V Total

Q4 Now

PS = 100 V

R1 = 100 Ω

R2 = 1 kΩ

R3 = 500 Ω

V in	V R1	V R2	V R3	V Total

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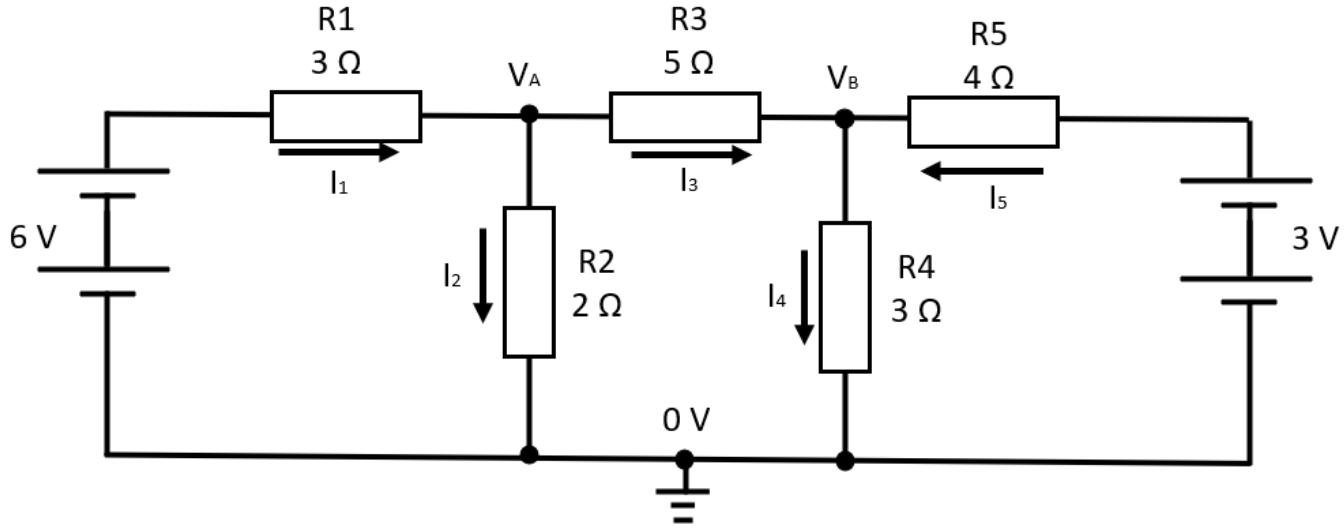
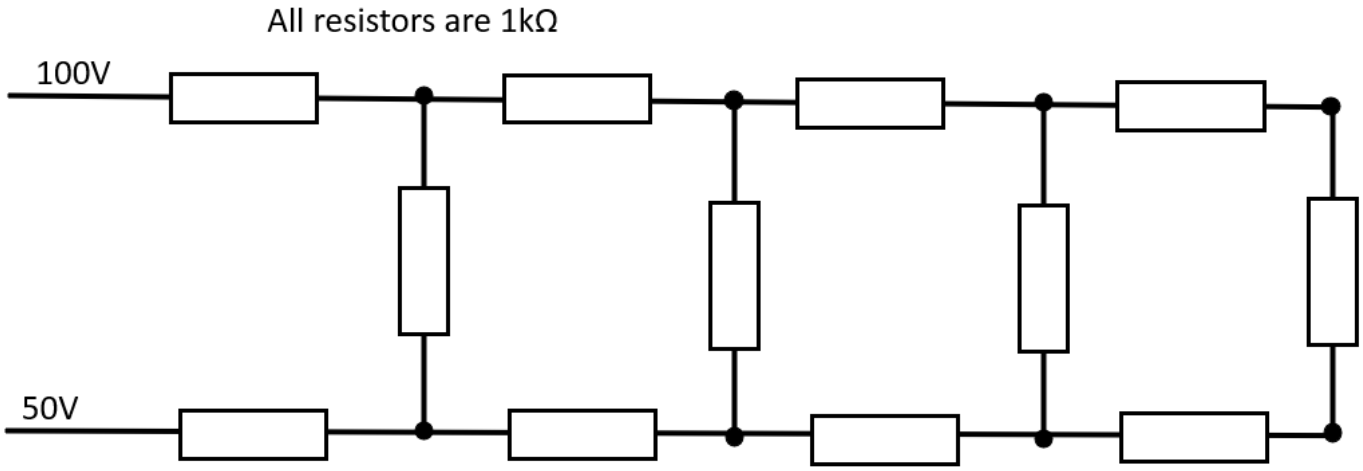
Q5 Solve for the following.

VA	VB	I1	I2	I3	I4	I5



Q6

Calculate RTotal and I_{Total}



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