Standard

Unit 3 - Questions

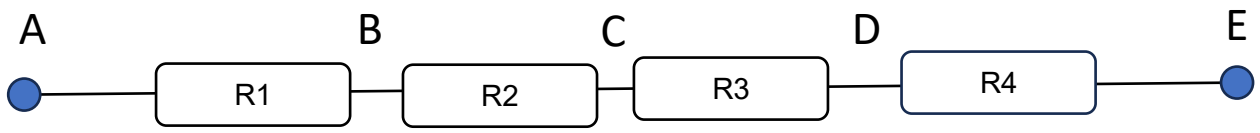

Figure 1

With reference to Figure 1, complete the following table with the calculated resistor values.

R1	R2	R3	R4	A to B	A to C	A to D	A to E	B to E	C to E
100 Ω	100 Ω	100 Ω	100 Ω						
1 kΩ	1.5 k Ω	2 k Ω	5 Ω						
10 Ω	20 Ω	30 Ω	40 Ω						
10 Ω	1 k Ω	1 M Ω	10 M Ω						
1 Ω	1 Ω	1 Ω	1 Ω						

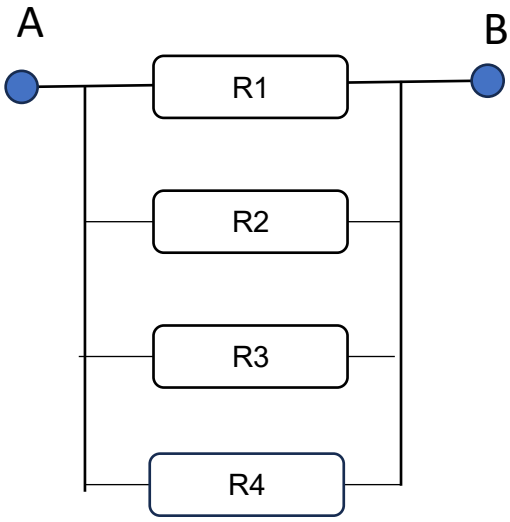

Figure 2

With reference to Figure 2, complete the following table with the calculated resistor values.

R1	R2	R3	R4	A to B
100 Ω	100 Ω	100 Ω	100 Ω	
1 kΩ	1.5 k Ω	2 k Ω	5 Ω	
10 Ω	20 Ω	30 Ω	40 Ω	
10 Ω	1 k Ω	1 M Ω	10 M Ω	
1 Ω	1 Ω	1 Ω	1 Ω	

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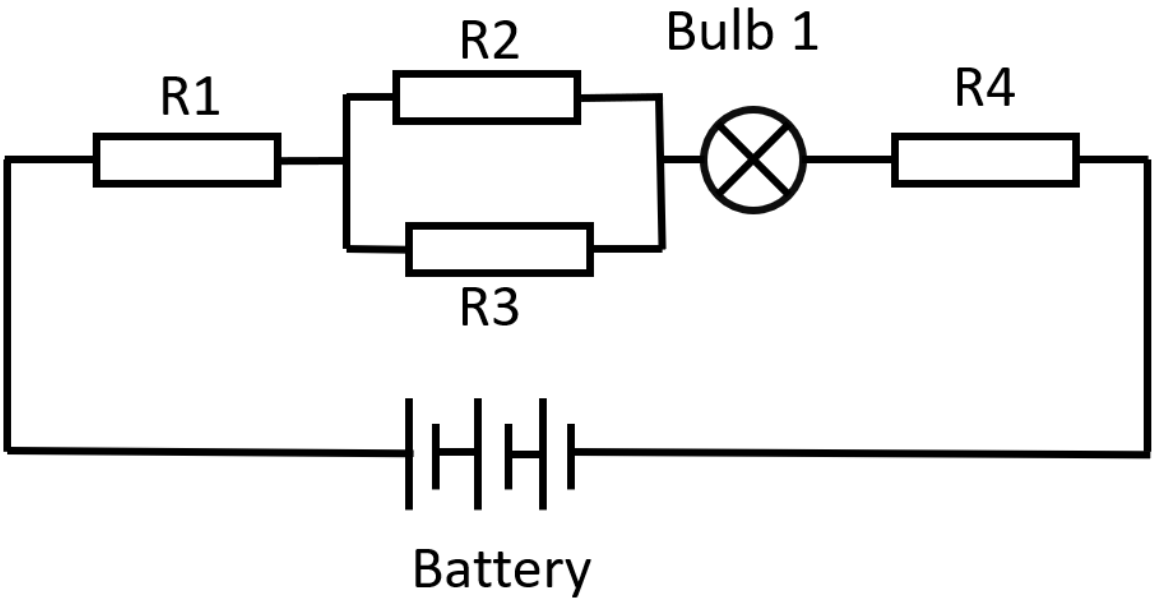
Complete the table of resistors.

Bands	1st Digit	2nd Digit	3rd Digit	Multiplier	Tolerance	Temp	Answer
3			NA		20%	NA	
3			NA		20%	NA	
3			NA		20%	NA	
3			NA		20%	NA	
4			NA			NA	
4			NA			NA	
5						NA	
5						NA	
6							
6							



Calculate the total with the values of R2 and R3 in the following combinations.

R2	**R3**	**Total R2/R3**
100Ω	100Ω	
200Ω	100Ω	
50Ω	1000Ω	
66Ω	33Ω	

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Calculate the total resistance with the values in the following combinations.

R1	R2/R3	Bulb	R4	Total
100 Ω	100 Ω	15 Ω	100 Ω	
6 Ω	10 Ω	5 Ω	100 Ω	
2K Ω	1.5K Ω	100 Ω	500 Ω	
1M Ω	2M Ω	100 Ω	6m Ω	

Complete the table assuming the following values.

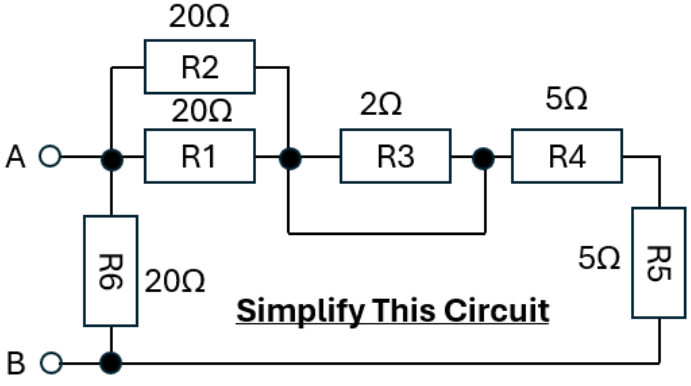
Battery	Current	R1	R2	R3	Bulb	R4
90v	3A	6Ω	20Ω	202Ω	Ω	4Ω
12v	A	20 Ω	100 Ω	100 Ω	15 Ω	10 Ω
60v	52 mA	100 Ω	Ω	Ω	15 Ω	1000 Ω

Complete the following table.

Band 1	Band 2	Band 3	Band 4	Value	Tolerance
Black	Brown	Red	Gold		
				1MΩ	2%
Green	Blue	Yellow	Red		
Orange	Black	Brown	Silver		

Complete the following table.

Colours	Value



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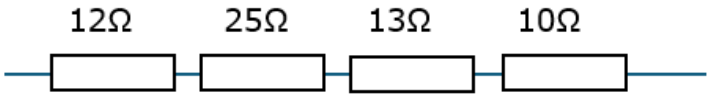
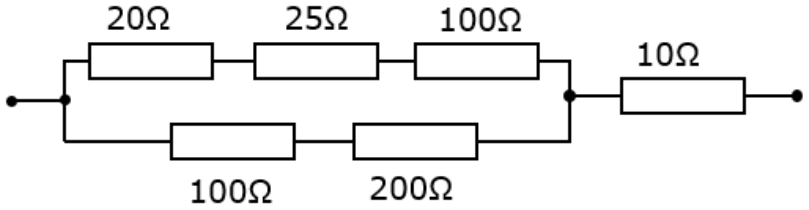
Resistor, Current and Voltage Exercises - Questions

Q1



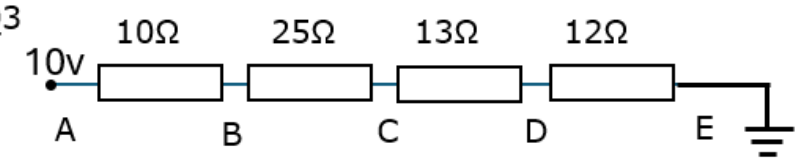
Total Resistance: _____Ω

Q2



Total Resistance: _____Ω

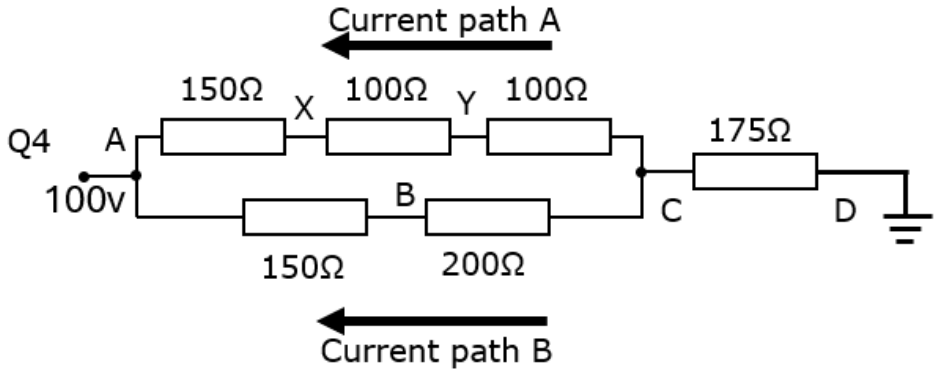
Q3



Total Resistance:_____Ω Total Current: _____A

Voltage between A-B=_____v B-C=_____v C-D=_____v D-E=_____v

Q4



Total Resistance:_____Ω Total Current:_____mA

Current in Path A=_____mA
Current in path B=_____mA
Current in path C=_____mA

Voltage between A-B=_____v B-C=_____v C-D=_____v

Voltage between A-X=_____v X-Y=_____v Y-C=_____v

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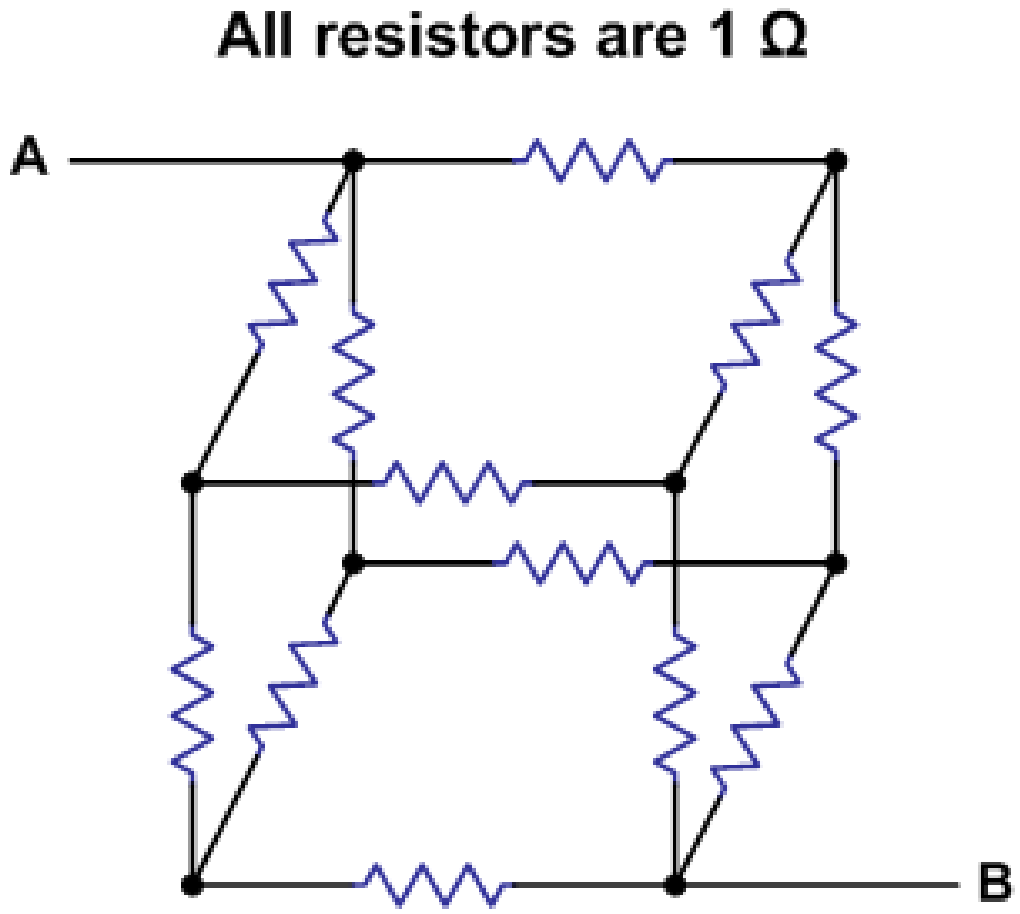
Optional question

Calculate the resistance between A and B.

HINT: Redraw the circuit to series and parallel resistors.



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