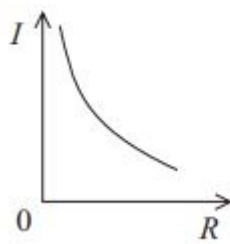
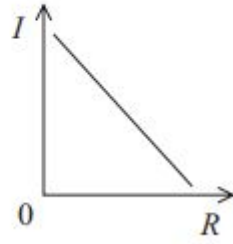


Electrical Circuits MCQ QP2

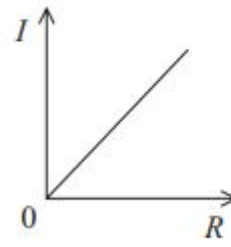
- 1 A steady potential difference is applied across a variable resistor that is kept at a constant temperature.



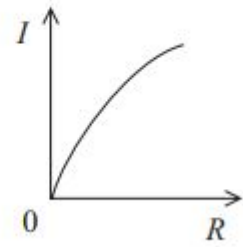
A



B



C

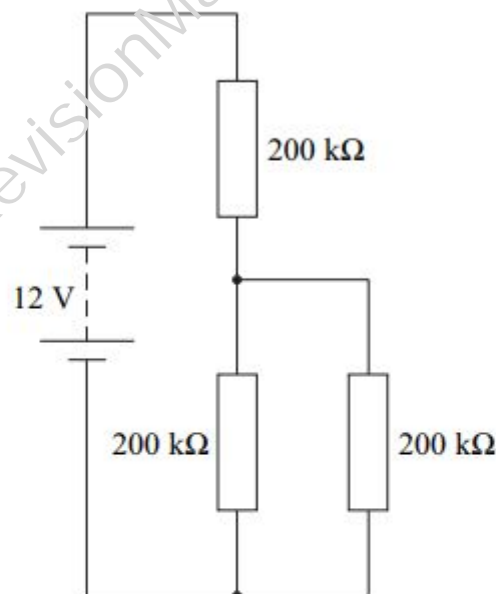


D

The graph which represents the relationship between the resistance R of the variable resistor and the current I through it is

- A**
- B**
- C**
- D**

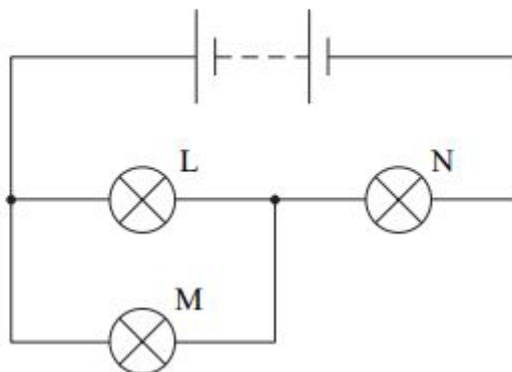
- 2 The battery in the circuit has negligible internal resistance and an e.m.f. of 12 V.



The potential difference across the parallel combination is

- A** 0 V
- B** 4 V
- C** 6 V
- D** 8 V

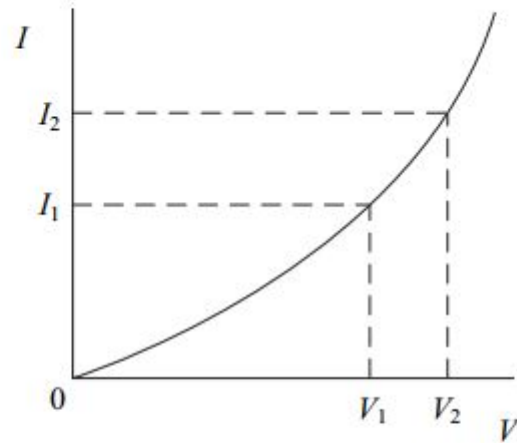
- 3 In the circuit shown, the battery has negligible internal resistance. L, M and N are identical lamps.



The filament of lamp M breaks. Identify the row of the table which shows the resulting changes in the brightness of lamps L and N.

		Lamp L	Lamp N
<input checked="" type="checkbox"/>	A	increases	stays the same
<input checked="" type="checkbox"/>	B	stays the same	decreases
<input checked="" type="checkbox"/>	C	decreases	increases
<input checked="" type="checkbox"/>	D	increases	decreases

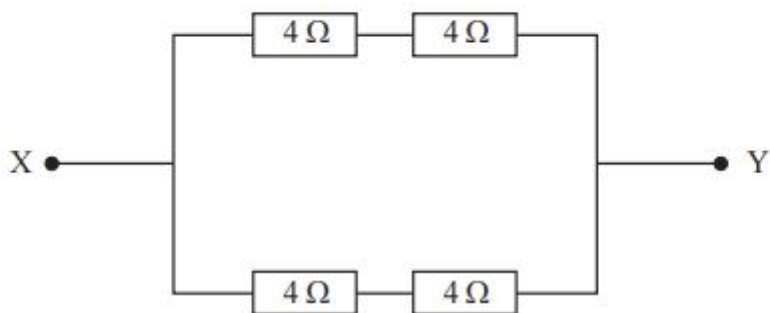
- 4 The graph shows how the current I varies with potential difference V for an electrical component.



Which row of the table gives the resistance of the component at V_2 and describes how the resistance changes from V_1 to V_2 ?

		Resistance at V_2	Change in resistance from V_1 to V_2
<input type="checkbox"/>	A	$\frac{V_2 - V_1}{I_2 - I_1}$	increases
<input type="checkbox"/>	B	$\frac{V_2 - V_1}{I_2 - I_1}$	decreases
<input type="checkbox"/>	C	$\frac{V_2}{I_2}$	increases
<input type="checkbox"/>	D	$\frac{V_2}{I_2}$	decreases

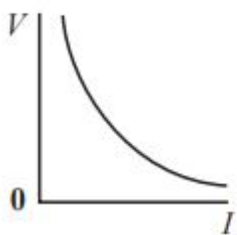
5 The diagram shows a resistor network.



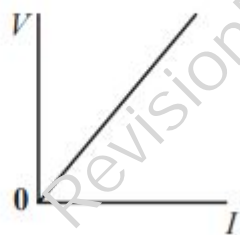
The total resistance between points X and Y is

- A 0.25 Ω
- B 1.0 Ω
- C 4.0 Ω
- D 16 Ω

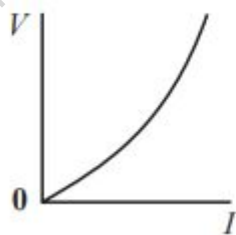
6 Which one of the following graphs correctly shows the relationship between potential difference (V) and current (I) for a filament lamp?



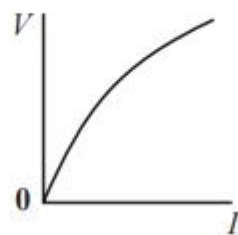
A



B



C



D

- A
- B
- C
- D