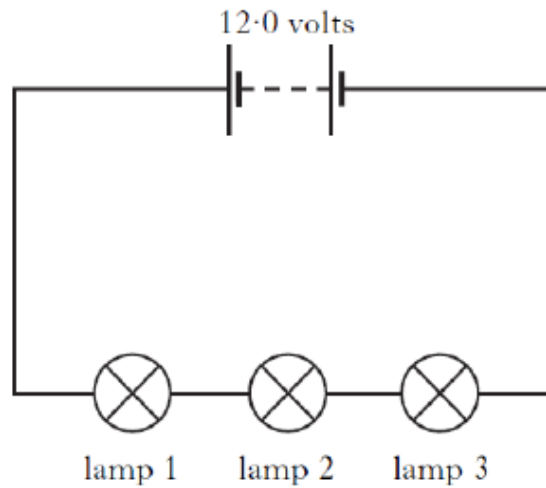


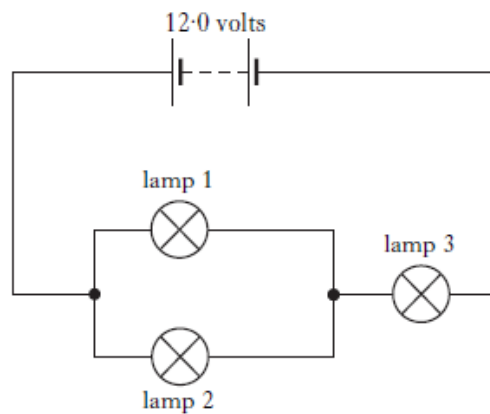
2.1 Practical Electricity Homework Questions

- 1(a) 3 identical lamps are connected as shown in circuit 1. A 12.0 volt battery supplies a current of 0.2 amperes.



Circuit 1

- (i) State the current in lamp 2 (1)
- (ii) Calculate the voltage across lamp 2 (3)
- (b) The lamps are now connected as shown in circuit 2. The 12.0 volt battery supplies a current of 0.40 amperes to this circuit.



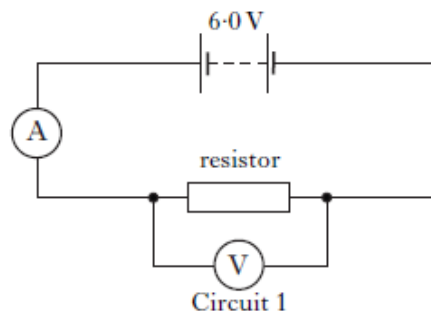
i) Copy and

Complete the table to show the current in each lamp and the voltage across each lamp.

	Lamp 1	Lamp 2	Lamp 3
Voltage(volts)			8.0
Current(amperes)			0.4

(4)

- 2 A student has 4 resistors labelled A, B, C and D. The student sets up Circuit 1 to identify the value of each resistor.



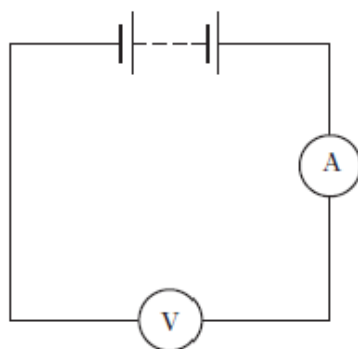
Each resistor is placed in the circuit in turn and the following results are obtained.

Resistor	Voltage across resistor (v)	Current (A)
A	6.0	0.017
B	6.0	0.027
C	6.0	0.050
D	6.0	0.033

- (a) (i) Show by calculation, which of the resistors has a value of 120Ω . (3)
- 3 A student sets up an experiment to investigate the current in and voltage across two different resistors.

The student uses a battery, an ammeter, a voltmeter and some wires to obtain measurements for each resistor.

- (a) Copy and complete the diagram below, by inserting a resistor, to show how the measurements can be obtained.



(1)

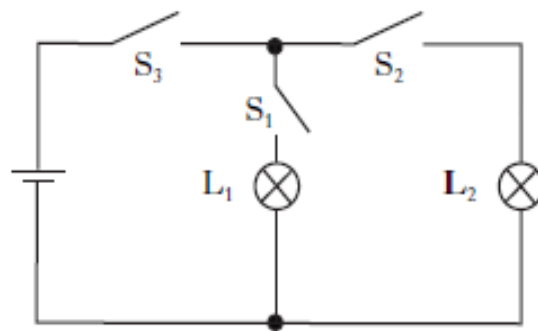
- (b) The measurements obtained for each resistor are shown in the table. Use the information in the table to calculate the resistance of resistor X.

Resistor	Current (amperes)	Voltage (volts)
X	0.06	1.5
Y	0.75	1.5

(3)

4.

A circuit is set up as shown



Which switch or switches must be closed to light lamp L1 only?

(2)

5.

A student writes the following sentence.

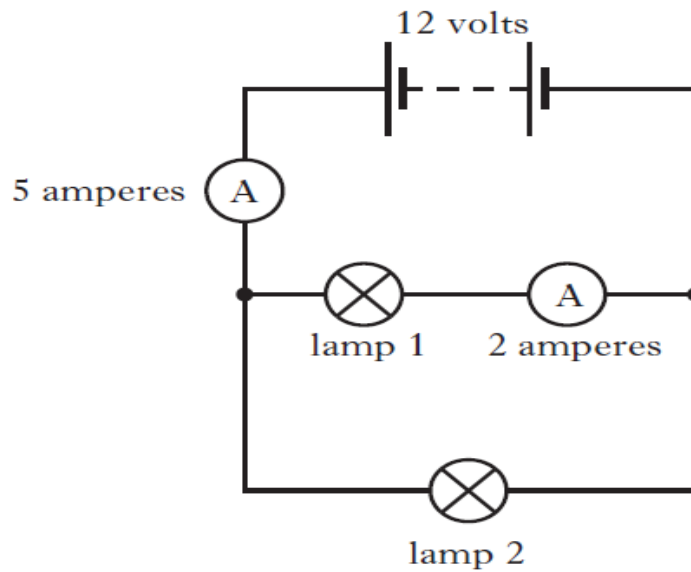
An electric current is a flow of M and is measured in N .Which row in the table shows the words represented by the letters M and N ?

	M	N
A	voltage	volts
B	resistance	ohms
C	charge	ohms
D	resistance	amperes
E	charge	amperes

(2)

6.

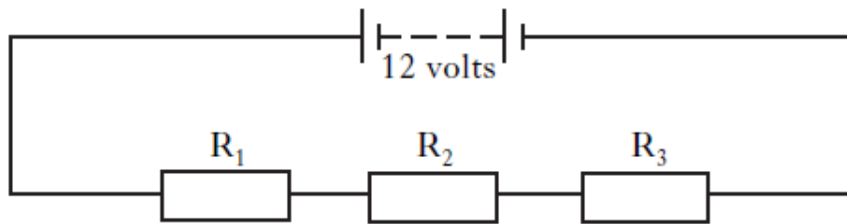
A student sets up the circuit below to demonstrate the way lamps inside a caravan are connected.



- (a) Copy and complete the diagram to show a voltmeter connected to measure the voltage across lamp 2. (2)
- (b) State the voltage across lamp 2. (1)
- (c) What is the current in lamp 2? (1)
- (d) Lamp 1 'blows' and goes out. Explain why lamp 2 stays on. (1)

7.

A circuit is set up as shown.



The voltage of the battery is 12 volts. The voltage across resistor R_1 is 5 volts. Which row in the table shows possible voltages across R_2 and R_3 ?

	<i>Voltage across R_2</i>	<i>Voltage across R_3</i>
A	2 volts	3 volts
B	3 volts	4 volts
C	5 volts	5 volts
D	5 volts	12 volts
E	12 volts	12 volts

(1)

Total Marks 25