

Series and Parallel Circuits

Question Paper

Level	GCSE (9-1)
Subject	Combined Science: Trilogy - Physics
Exam Board	AQA
Topic	6.2 Electricity
Sub-Topic	Series and Parallel Circuits
Difficulty Level	Silver Level
Booklet	Question Paper

Time Allowed: 9 minutes

Score: /9

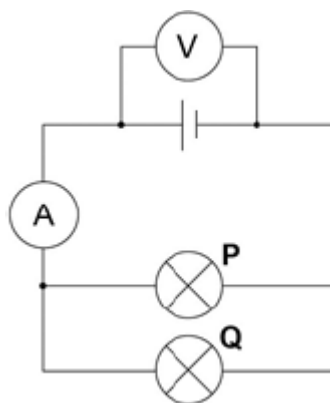
Percentage: /100

Grade Boundaries:

Q1.Figure 1 shows a circuit diagram containing two identical lamps arranged in parallel.

The reading on the ammeter is 186 mA.

Figure 1



- (a) Which statement about the current through the lamps is true?

Tick **one** box.

The current through both lamp **P** and lamp **Q** is
0.093 A

☐

The current through both lamp **P** and lamp **Q** is
0.186 A

☐

The current through both lamp **P** and lamp **Q** is
0.93 A

☐

The current through both lamp **P** and lamp **Q** is
1.86 A

☐

(1)

- (b) One of the lamps breaks and is not replaced.

Which statement about the current in the other lamp is true?

Tick **one** box.

The current through the lamp is **0.093 A**

☐

The current through the lamp is **0.186 A**

☐

The current through the lamp is **0.93 A**

☐

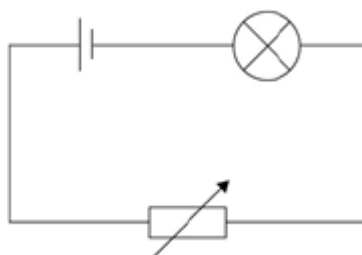
The current through the lamp is **1.86 A**

☐

(1)

- (c) **Figure 2** shows a circuit that can be used to alter the brightness of a lamp.

Figure 2



The resistance of the variable resistor is increased.

What effect will this have on the brightness of the lamp?

Explain your answer.

.....

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(2)

- (d) When the potential difference across the lamp is 3.3 V, the current is 0.15 A.

Write down the equation that links current, potential difference and resistance.

Equation

(1)

- (e) Calculate the resistance of the lamp.

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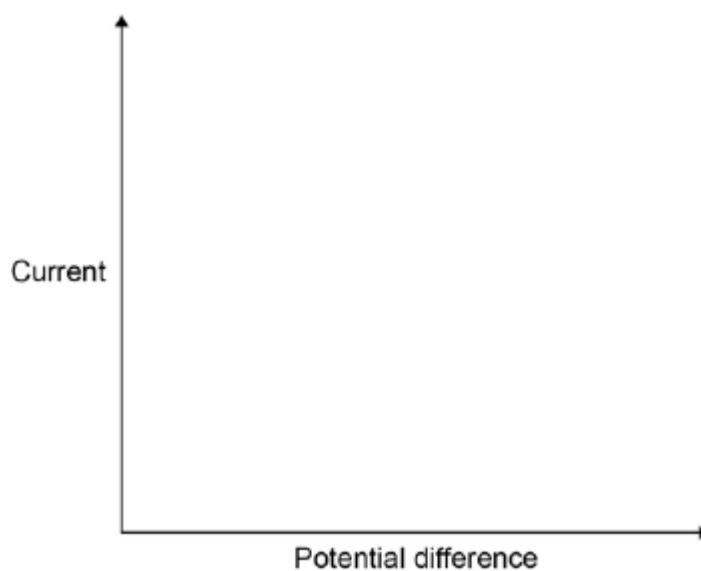
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Resistance = Ω

(3)

- (f) Sketch a current–potential difference graph for a filament lamp.



(1)
(Total 9 marks)