

**GCSE Physics B (Twenty First Century Science)**  
**J259/02** Depth in physics (Foundation Tier)

**Question Set 25**

- 1 Amaya builds an electrical circuit to investigate the relationship between current and potential difference for a fixed resistor.

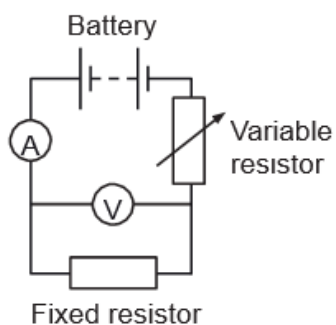


Fig. 1.1 shows Amaya's results for the fixed resistor.

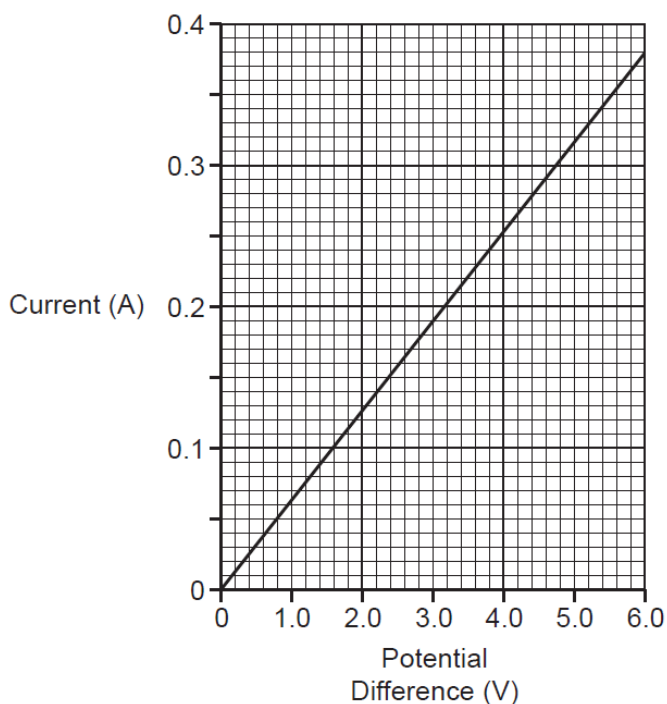


Fig. 1.1

- (a) Calculate the resistance of the fixed resistor.

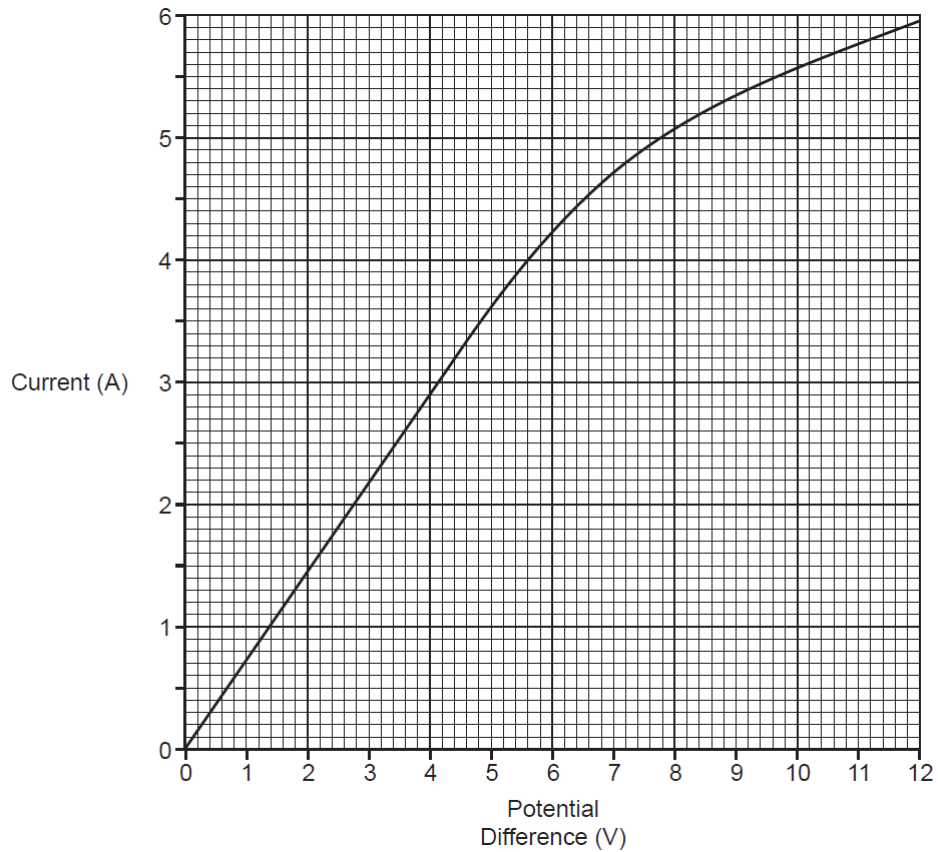
Use the equation: resistance = potential difference ÷ current

Show your working on Fig. 1.1.

Give your answer to 1 decimal place and the **unit** for resistance.

Resistance = ..... Unit ..... [4]

- (b) Amaya repeats the investigation, but replaces the fixed resistor with a filament lamp. Her results are shown in **Fig. 1.2**.



**Fig. 1.2**

Amaya says:

**Fig. 1.2** shows that as the potential difference in the circuit increases, the resistance of the lamp increases.



Discuss Amaya's comments.

Use **Fig. 1.2** to support your answer.

**[3]**

**Total Marks for Question Set 25: 7**

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