

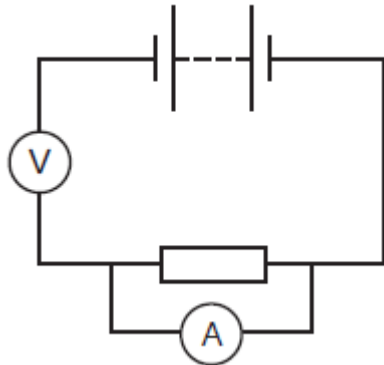
## **GCSE Physics A (Gateway)**

**J249/01 Physics A P1-P4 and P9 (Foundation Tier)**

### **Question Set 10**

- 1 (a) A student sets up a circuit to find out the resistance of an unknown resistor. The student makes **three** mistakes in their circuit.

Look at the circuit diagram of their experiment.



- (a) (i) Write down the **three** mistakes the student makes.
- 1 .....
- 2 .....
- 3 ..... [3]

- (ii) For **one** of the mistakes identified in (a)(i) describe how the student can fix the error. [1]

- (b) The student finds that the current is 20 mA when the potential difference is 4.0 V. Calculate the **resistance** of the unknown resistor. Include the **unit** for resistance in your answer.

Use the equation: resistance = potential difference ÷ current.

Resistance = ..... Unit = .....

- (c) Calculate the charge that flows when a current of 2.5 A flows for 30 seconds. [4]

Charge = ..... C [3]

**Total Marks for Question Set 10: 11**

---

# OCR

Oxford Cambridge and RSA

## **Copyright Information**

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website ([www.ocr.org.uk](http://www.ocr.org.uk)) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge