FREE REVISION PACK

Resistivity

Pearson Edexcel International Advanced Level Physics · Unit 2 (WPH12) · Specification points 71–72

Easy | Multiple choice · past-paper questions

4	4	≈ 5 min
QUESTIONS	TOTAL MARKS	SUGGESTED TIME*

Contents

Q	LEVEL	FOCUS	SOURCE	MARKS
1	Easy	p.d. along a uniform wire	Edexcel IAL June 2023 · Unit 2 · Q4	1 mark
2	Easy	Resistance of a whole wire from part of it	Edexcel IAL January 2025 · Unit 2 · Q8	1 mark
3	Easy	Resistivity of a metal cube	Edexcel IAL October 2020 · Unit 2 · Q7	1 mark
4	Easy	Resistance of a wire with changed dimensions	Edexcel IAL October 2017 · Unit 2 · Q6	1 mark

Key ideas to have ready

- $R = \rho l/A$: resistance is proportional to length and inversely proportional to area.
- Resistivity ρ (Ω m) is a property of the material.
- For a uniform wire, p.d. and resistance are proportional to length.
- $\rho = RA/l$; for a cube of side x, $\rho = Rx$.

How to use this pack

1. The questions are grouped into levels (Easy). Work through them in order, and check your answers at the end of each level before moving on.
2. Every question is multiple choice with one correct answer. Write down your working anyway; that is how you find mistakes.
3. The separate mark scheme uses the same numbers and explains every answer.

Levels are based on how students did in Pearson's examiner reports where that information exists, plus our own difficulty rating. *About 1.5 minutes per question.

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Easy

Definitions and one-step ideas. Most students get these right.

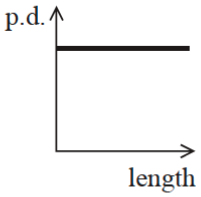
Questions 1–4

Choose **one** answer for each question and put a cross in the box next to it.

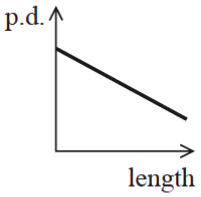
Edexcel IAL June 2023 · Unit 2 · Q4

1 The current in a length of uniform wire is constant.

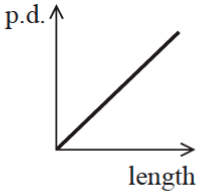
Which of the following graphs shows how the potential difference (p.d.) across the wire varies with the length of the wire?



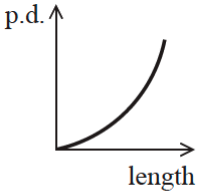
☒ **A**



☒ **B**



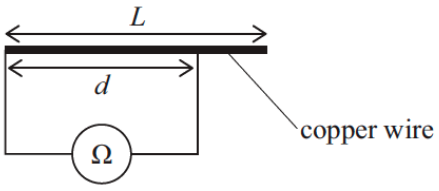
☒ **C**



☒ **D**

Edexcel IAL January 2025 · Unit 2 · Q8

2 A student used an ohmmeter to investigate the resistance of a uniform copper wire of length L, as shown.



Length d of the wire has resistance R.

Which of the following gives the total resistance of the copper wire?

☒ **A** $\frac{d}{L} \times \frac{1}{R}$

☒ **B** $\frac{d}{L} \times R$

☒ **C** $\frac{L}{d} \times \frac{1}{R}$

☒ **D** $\frac{L}{d} \times R$

Edexcel IAL October 2020 · Unit 2 · Q7

3 A small metal cube, with sides of length x, is connected in a circuit. The current through the cube, between opposite faces, is I and the potential difference across the cube is V.

Which of the following gives the resistivity of the metal?

☒ **A** $\frac{Vx}{I}$

☒ **B** $\frac{V}{Ix}$

☒ **C** $\frac{Ix}{V}$

☒ **D** $\frac{I}{Vx}$

Edexcel IAL October 2017 · Unit 2 · Q6

4 A wire has a resistance of $8\,\Omega$.

A second wire has twice the cross-sectional area, twice the length and twice the resistivity.

What is the resistance of the second wire?

☒ **A** $4\,\Omega$

☒ **B** $8\,\Omega$

☒ **C** $16\,\Omega$

☒ **D** $32\,\Omega$

End of questions. Check your answers with the matching mark scheme. More free packs and 1-to-1 tuition:
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