

Cambridge IGCSE™

PHYSICS	0625/61
Paper 6 Alternative to Practical	October/November 2024
MARK SCHEME	
Maximum Mark: 40	

Published

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Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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Question	Answer	Marks
1(a)	(For $d = 90.0 \text{ cm}$): $T = 1.91$	1
	$T^2 = 3.65 \text{ (3.6481)}$	1
1(b)	T and T^2 values present for 45cm, AND T^2 both quoted to 3 OR both quoted to 4 significant figures	1
1(c)	t and T in s	1
	T^2 in s^2	1
1(d)	(Timing) errors (due to reaction time) less significant / (same) error is spread over a longer time.	1
1(e)	Use of set square or similar horizontal aid OR metre rule close to bob / pendulum	1
1(f)	Use of fiducial point / counting from when pendulum passes the vertical / start counting from zero.	1
1(g)	$100 \text{ (cm)} < x < 140 \text{ (cm)}$	1
1(h)	At least 3 additional values	1
	No value greater than distance x as stated in (g)	1

Question	Answer	Marks
2(a)	23°C clearly shown to better than $\pm 0.5^\circ\text{C}$	1
2(b)	$^\circ\text{C}$, minutes	1
2(c)	Graph:	
	Axes correctly labelled and right way round	1
	Suitable scales	1
	All plots correct to $\frac{1}{2}$ small square	1
	Good line judgement, thin, continuous line	1
2(d)	Statement to match graph line	1
	Explanation to match statement and line.	1
2(e)	Avoids line-of-sight / parallax error	1
2(f)	Measuring cylinder drawn with liquid	1
	Clear indication of line of sight at right angles to cylinder and level with surface of liquid.	1

Question	Answer	Marks
3(a)	1.6 (cm)	1
3(b)	Move <u>screen</u> slowly / back and forth	1
	Darkened room / bright object	1
3(c)	15.6 (15.5589)	1
	cm	1
	3 significant figures	1
3(d)	Upside down / inverted	1
	Magnified / larger	1
3(e)	14.9498 (cm)	1
3(f)	Statement matches results (expect YES)	1
	Justification matches statement with reference to values being within 10% of each other.	1

Question	Answer	Marks
4	MP1 CIRCUIT: Ammeter and variable resistor both shown in series with test wire and with correct symbols.	1
	MP2 METHOD MARK 1: Adjust current / variable resistor until wire melts / current stops. Take current reading.	1
	MP3 THE CHOSEN VARIABLE: metal used or diameter	1
	MP4 METHOD MARK 2: Repeat with other metal(s) or other diameter(s)	1
	MP5 VARIABLE TO KEEP CONSTANT: Diameter of wire or metal used, provided it is not the variable chosen for MP3	1
	MP6 TABLE with clear columns for current with unit A and for their chosen variable, with correct unit if appropriate.	1
	MP7 CONCLUSION: Plot graph of current against diameter OR bar chart of current against metal OR compare the readings to see if the chosen variable affects the current at which the fuse wire melts	1