

Cambridge IGCSE™

PHYSICS**0625/63**

Paper 6 Alternative to Practical

October/November 2025

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)(i)	$l = 6.9 \text{ (cm)}$ $w = 2.5 \text{ (cm)}$ $h = 3.0 \text{ (cm)}$ <u>all</u> to nearest mm	2
1(a)(ii)	$V_A = 52 \text{ (cm}^3\text{)}$	1
1(b)	irregular dimensions / owtte repeat in several places (for each dimension) <u>and</u> take averages	2
1(c)	effect of uncertainties increased/ larger % uncertainty/owtte	1
1(d)(i)	$V_1 = 152 \text{ (cm}^3\text{)}$	1
1(d)(ii)	line of sight perpendicular / owtte	1
1(e)	V_2 present <u>and</u> $V_B = V_2 - V_1$	
1(f)	suitable source of inaccuracy e.g. graduations on measuring cylinder too large / thread affects volume / cylinder is wide / clay may absorb water matching improvement e.g. use smaller measuring cylinder / more precise scale / thinner thread / no thread and place carefully / measure volume of thread / narrower cylinder / cover clay with paint or cling film	2

Question	Answer	Marks
2(a)	correct voltmeter symbol connected in parallel	1
2(b)(i)	arrow between left-hand end of wire and left-hand side of crocodile clip	1
2(b)(ii)	$V = 2.9 \text{ (V)}$ $I = 0.36 \text{ (A)}$	2
2(c)	$R = 8.06$ and 3.73 and $2.50 \text{ (}\Omega\text{)}$ OR 8.1 and 3.7 and $2.5 \text{ (}\Omega\text{)}$ consistent 2 or consistent 3 significant figures	2
2(d)(i)	$R_A = 8.06$, $R_B = 7.46$ and $R_C = 7.50 \text{ (}\Omega\text{)}$ OR $R_A = 8.1$, $R_B = 7.4$ OR 7.5 and $R_C = 7.5 \text{ (}\Omega\text{)}$	1
2(d)(ii)	statement matching results within limits of experimental accuracy / within 10% / owtte	2
2(e)	limits current / current could exceed fsd value of ammeter	1
2(f)	suitable action: reduce voltage of power supply / connect to longer wire / use R_P of greater value / switch off circuit between taking readings	1

Question	Answer	Marks
3(a)	move <u>screen</u> backwards and forwards / move <u>screen</u> slowly	1
3(b)(i)	$h_1 = 6.0$ (cm)	1
3(b)(ii)	$D = 0.17$ (cm ⁻¹)	1
3(c)	graph: • axes labelled with quantity and unit • appropriate scales (occupying at least $\frac{1}{2}$ grid) • plots all correct to $\frac{1}{2}$ small square, precise plots • well judged line <u>and</u> thin line	4
3(d)(i)	intercept read correctly from graph	1
3(d)(ii)	G recorded and triangle method shown on graph	1
3(e)	h_0 present and f in range 13.5 to 16.5 (cm)	1
3(f)	any appropriate difficulty: e.g. hand/ruler in way of image / person creating a shadow <u>and</u> matching improvement: e.g. use translucent screen and view from behind / fix ruler or grid to screen / mark image on screen before measuring / take a photo with ruler in view	1

Question	Answer	Marks
4	MP1 apparatus: ruler and balance / measuring cylinder MP2 method: measure mass / volume of water switch on lamp measure new mass / volume of water MP3 repeat for dish with new diameter MP4 control variable (one from): initial mass / volume of water, time lamp turned on, height / angle/distance of lamp, power of lamp, initial temperature of water MP5 table: columns for diameter and final mass / volume of water with units MP6 analysis: compare readings in a table to see if a change in diameter produces a change in mass / volume of water evaporated / plot line graph (with axes specified) MP7 additional point (one from): at least 5 sets of data taken, repeat each measurement <u>and</u> take average, 2nd control variable stated,	7