CAMBRIDGE
International Education

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CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/61**

Paper 6 (Extended) **May/June 2026**

MARK SCHEME

Maximum Mark: 50

Published

This mark scheme contains the instructions and marking guidance that our examiners used to mark candidate responses for this component.

Before they start marking, examiners complete a standardisation process. They review a range of candidate responses and discuss the mark scheme in detail to agree which answers can and cannot be accepted. Examiners award marks where it is clear that candidate responses have met the requirements of the mark scheme. These requirements may vary between different components or different versions of the same component, depending on the exact requirements of the question and the candidate responses seen during the standardisation process.

Sometimes, our mark schemes may allow marks to be awarded to responses which contain elements that are factually incorrect or for content not covered by the syllabus. We do this in response to the demands of a specific question to support candidates and make sure that our assessments are fair. However, these allowances should not be used as a guide for teaching and learning.

We cannot discuss the mark scheme with schools, and we recommend that schools read the mark scheme together with the assessment material and the Principal Examiner Report for Teachers.

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General marking principles

All examiners must apply these marking principles when marking candidate responses.

1	Examiners must award marks for each response in line with: • the specific **content** defined in the mark scheme • the specific **skills** defined in the mark scheme or in the level descriptions • the **standard of response** required as exemplified by the standardisation scripts.
2	Examiners must award **whole marks** (not half marks, or other fractions).
3	Examiners must award marks **positively**. This means that: • marks are not deducted for errors or omissions • marks are awarded for correct/valid answers as defined in the mark scheme and also for **other valid answers** which go beyond the scope of the syllabus and mark scheme referring to your team leader as appropriate • the quality of spelling, punctuation and grammar are judged **only** when the mark scheme indicates that these features are **specifically assessed** in the question. However, the meaning of all responses must be unambiguous.
4	Examiners must **consistently** apply the requirements of the mark scheme and any rules for what to do when candidates have not followed instructions correctly.
5	Examiners must use the **full range of marks** defined in the mark scheme, unless limited by the quality of the candidate responses seen.
6	Examiners must award marks according to the mark scheme and **must not** award marks with grade thresholds or grade descriptions in mind.

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Mathematics-Specific Marking Principles

1 Unless a particular method has been specified in the question, full marks may be awarded for any correct method. However, if a calculation is required then no marks will be awarded for a scale drawing.

2 Unless specified in the question, non-integer answers may be given as fractions, decimals or in standard form. Ignore superfluous zeros, provided that the degree of accuracy is not affected.

3 Allow alternative conventions for notation if used consistently throughout the paper, e.g. commas being used as decimal points.

4 Unless otherwise indicated, marks once gained cannot subsequently be lost, e.g. wrong working following a correct form of answer is ignored (isw).

5 Where a candidate has misread a number or sign in the question and used that value consistently throughout, provided that number does not alter the difficulty or the method required, award all marks earned and deduct just 1 A or B mark for the misread.

6 Recovery within working is allowed, e.g. a notation error in the working where the following line of working makes the candidate's intent clear.

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Annotations guidance for centres

Examiners use a system of annotations as a shorthand for communicating their marking decisions to one another. Examiners are trained during the standardisation process on how and when to use annotations. The purpose of annotations is to inform the standardisation and monitoring processes and guide the supervising examiners when they are checking the work of examiners within their team. The meaning of annotations and how they are used is specific to each component and is understood by all examiners who mark the component.

We publish annotations in our mark schemes to help centres understand the annotations they may see on copies of scripts. Note that there may not be a direct correlation between the number of annotations on a script and the mark awarded. Similarly, the use of an annotation may not be an indication of the quality of the response.

The annotations listed below were available to examiners marking this component in this series.

Annotations

Annotation	Meaning
	More information required
	Accuracy mark awarded zero
	Accuracy mark awarded one
	Accuracy mark awarded two
	Accuracy mark awarded three
	Independent mark awarded zero
	Independent mark awarded one
	Independent mark awarded two
	Independent mark awarded three
	Benefit of the doubt

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Annotation	Meaning
C	Communication mark
	Incorrect
FT	Follow through
Highlighter	Highlight a key point in the working
ISW	Ignore subsequent work
M0	Method mark awarded zero
M1	Method mark awarded one
M2	Method mark awarded two
M3	Method mark awarded three
MR	Misread
O	Omission
Off-page comment	Allows comments to be entered at the bottom of the RM marking window and then displayed when the associated question item is navigated to.
On-page comment	Allows comments to be entered in speech bubbles on the candidate response.
Pre	Premature rounding/approximation
SC	Special case
SEEN	Indicates that work/page has been seen
TE	Transcription error

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Annotation	Meaning
	Correct
	Correct answer from incorrect working

MARK SCHEME NOTES

The following notes are intended to aid interpretation of mark schemes in general, but individual mark schemes may include marks awarded for specific reasons outside the scope of these notes.

Types of mark

M Method marks, awarded for a valid method applied to the problem.

A Accuracy mark, awarded for a correct answer or intermediate step correctly obtained. For accuracy marks to be given, the associated Method mark must be earned or implied.

B Mark for a correct result or statement independent of Method marks.

When a part of a question has two or more 'method' steps, the M marks are in principle independent unless the scheme specifically says otherwise; and similarly where there are several B marks allocated. The notation 'dep' is used to indicate that a particular M or B mark is dependent on an earlier mark in the scheme.

Abbreviations

awrt answers which round to
cao correct answer only
dep dependent
FT follow through after error
isw ignore subsequent working
nfww not from wrong working
oe or equivalent
rot rounded or truncated
SC Special Case
soi seen or implied

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Question	Answer	Marks	Partial Marks	Guidance
1(a)	15^2 = **225** 6 × **22** = **132** **225** – **132** = **93** [Frame sum **= 93**]	**2**	**B1** for a correct first or second line	If answer to subtraction is blank, mark Frame sum line
1(b)	46 and 53 seen	**C1**		May be identified on grid in stem
	155	**1**	**FT** *their* 46 and 53	
2(a)	$n+9$ and $n+16$ oe in correct squares	**2**	**B1** for each	e.g. $n + 9 + 7$
2(b)	$[(n+9)^2 =]\ n^2+9n+9n+81$ or better	**2**	**FT** *their* $n + 9$ **B1** for 3 terms correct	$18n$ counts as two terms *their* $n + 9$ must be of the form $n + k$ for $k > 0$
	$[n(n+16) =]\ n^2+16n$ soi leading correctly to $2n+81$	**1**		Allow recovery of $-n^2 + 16n$ to $-n^2 - 16n$ but only on line of working that follows immediately Accept column subtraction $n^2+18n+81$ $-\ n^2+16n$
2(c)	$2n+81=197$	**C1**		Accept $\frac{197-81}{2}$
	58	**1**		

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Question	Answer	Marks	Partial Marks	Guidance
2(d)	207 seen	**C1**	**FT** 223 – *their* 16 from bottom square in **2(a)**	*their n* + 16 must be of the form $n + k$ for $k > 0$
	495	**1**	**FT** *their* 207	$2 \times$ *their* 207 + 81 *their n* + 16 must be of the form $n + k$ for $k > 0$
3(a)	159 and 183 seen	**C1**		May be identified on grid
	2040	**1**	**FT** *their* 159 and 183	(*their* 159)^2 – 127 × *their 183*
3(b)	$(n+32)^2 - n(n+56)$ oe isw	**3**	**B1** for $n+32$ oe **B1** for $n+56$ oe **B1** for $(their\ (n+32))^2 - n(their\ (n+56))$	$8n + 1024$ Not for $n \times n + 56$ *their n* +32 or 56 must be of the form $n + k$, $k > 0$
4(a)	$n+2dw$ oe	**1**		e.g. $n + (dw + d) + (dw - d)$

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Question	Answer	Marks	Partial Marks	Guidance
4(b)(i)	$2d \times 88 + d^2(w+1)^2 = 1280$	**1**		Accept correct expansion of $(w + 1)^2$ Accept $176d$ Substitute $n = 88$ at any point in a correct expression
	$d^2(w + 1)^2 = 1280 - 176d$ and $(w+1)^2 = \frac{1280-176d}{d^2}$ or $d(w+1) = \sqrt{1280-176d}$	**1**		Accept $(dw + d)^2$
	$w+1 = \sqrt{\frac{1280-176d}{d^2}}$ or $w+1 = \frac{\sqrt{1280-176d}}{d}$ leading to $w = \frac{\sqrt{1280-176d}}{d} - 1$	**1**		Accept $\sqrt{d^2}$ on denominator
4(b)(ii)	d / w 1 / 32.23 2 / **14.23** 3 / **8.14** 4 / **5** 5 / **3** 6 / 1.49 7 / **–0.01**	**2**	**B1** for two correct values	Accept 5 and 3 written as decimals Must be 2 d.p.

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Question	Answer	Marks	Partial Marks	Guidance
4(b)(iii)	3, 5	**1**	**FT** full list of 2 or more integer values from *their* table	no non integers, no decimals allowed Award mark if their completed table has no integers and they write impossible
5(a)(i)	*XY*	**1**		Accept *YX*
5(a)(ii)	20	**1**		
5(a)(iii)	for clearing fractions e.g. $10 - x = 6$ oe or for isolating x	**C1**		Accept both sides over 10 $200 - 120 = 20x$ Scale factor e.g. $10 / (20/12) = 6$
	4	**1**		Ignore units
5(a)(iv)	$\pi \times (their\ 4)^2 \times 12$	**C1**	**FT** *their x* where $1 < x < 10$	May be seen in two stages Do not accept 16
	192π isw	**1**	**FT** *their x* where $1 < x < 10$	Condone $\pi 192$
5(b)	correct ratios from similar triangles e.g. $\frac{10-x}{10} = \frac{6}{20}$, $\frac{20}{6} = \frac{10}{x}$	**C1**		Accept other letters Ignore annotations on diagram Scale factor e.g. $10 / (20/14) = 7$
	$\pi \times (their\ x)^2 \times 6$	**C1**	**FT** *their x* where $1 < x < 10$	May be seen in two stages Allow e.g. 49 for 7^2 if 7 seen
	294π isw	**1**		Condone $\pi 294$

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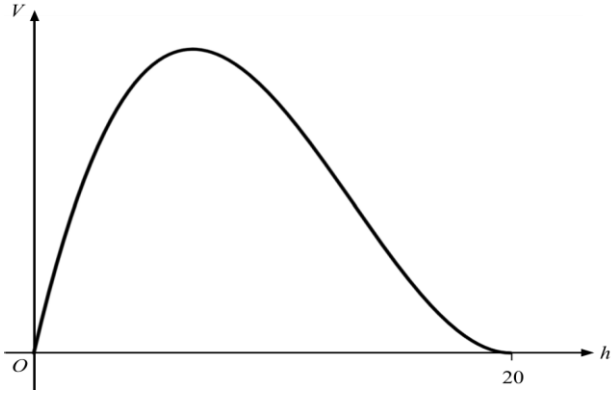
Question	Answer	Marks	Partial Marks	Guidance
6(a)	correct use of similar triangles involving x and h e.g. $\frac{10-x}{10}=\frac{h}{20}$, $\frac{x}{10}=\frac{20-h}{20}$	**M1**		Accept other letters Scale factor stated and applied correctly to find an explicit expression for x
	$[x=]\frac{20-h}{2}$ oe	**A2**	**A1** for a correct first step to clear fractions e.g. $20 - 2x = h$	
	$V=\pi\times\left(\frac{20-h}{2}\right)^2\times h$ leading to $V=\frac{\pi h(20-h)^2}{4}$	**A1**		
6(b)	Correct sketch  	**2**	**B1** continuous curved graph from (0, 0) to (20, 0) with one maximum **B1** maximum point of continuous curved graph at approximately $h = 7$ with change of concavity after maximum	Curve must reach rectangular area between two vertical lines on overlay and between horizontal line and x axis. Ignore behaviour beyond $h = 20$ and before $h = 0$ Between two vertical lines on overlay
	scale on vertical axis to indicate maximum about 1000	**C1**		Maximum should not contradict *their* 1000 indicator Accept maximum value marked on graph
6(c)	931 awrt	**1**		930.84227

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Question	Answer	Marks	Partial Marks	Guidance
6(d)	height = 6.67 awrt	**1**		Ignore units Accept 6.6 with a dot or line above indicating recurring 6 May see $\frac{20}{3}$
	$x = \frac{20 - their\ h}{2}$ or $their\ V = \pi \times x^2 \times their\ h$ and $x^2 = \frac{their\ V}{\pi \times their\ h}$	**C1**		Accept other letters for *their h* $1 < h < 20$ Can start from other ratios e.g. $\frac{10-x}{10} = \frac{h}{20}$, $\frac{x}{10} = \frac{20-h}{20}$
	radius = 6.67 cao	**1**		Ignore units Accept 6.6 with a dot or line above indicating recurring 6 May see $\frac{20}{3}$
7(a)	correct use of similar triangles involving R and H e.g. $\frac{R-8}{R} = \frac{12}{H}$, $\frac{H}{R} = \frac{H-12}{8}$	**C1**		8 can be substituted later
	$\frac{12R}{R-8}$ oe	**1**		Condone $R12$
7(b)(i)	$\frac{1}{3} \pi \times R^2 \times \frac{12R}{R-8}$ isw	**1**		Accept r^2 for R^2 if changed to R^2 afterwards

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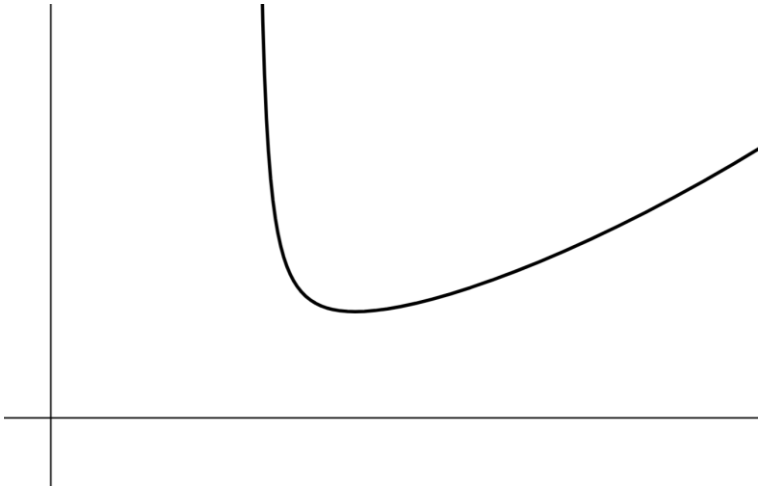
Question	Answer	Marks	Partial Marks	Guidance
7(b)(ii)	Correct suitable sketch, e.g. 	**C1**		Ignore graph outside first quadrant other methods possible, e.g. substituting R values Must see value of V for values of R above and below 12 then values of at least 11.9, 12 and 12.1
	5430 or 5428 to 5429	**1**		Ignore units Accept 1728π

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