CAMBRIDGE
International Education

# Cambridge IGCSE™

**CAMBRIDGE INTERNATIONAL MATHEMATICS** **0607/42**

Paper 4 (Extended) **May/June 2026**

MARK SCHEME

Maximum Mark: 75

**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:<br><br>• the specific **content** defined in the mark scheme<br>• the specific **skills** defined in the mark scheme or in the level descriptions<br>• 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:<br><br>• marks are not deducted for errors or omissions<br>• 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<br>• 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 |

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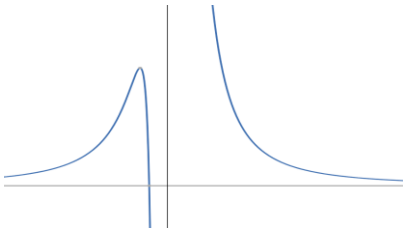
| Question | Answer | Marks | Partial Marks | Guidance |
|---|---|---|---|---|
| 1 | Kite or isosceles trapezium | **1** | | |
| 2 | $7c-2d$ final answer | **2** | **B1** for $7c-kd$ or $jc-2d$, $j \neq 0$ | Allow **B1** for $7c$ |
| 3 | $\frac{15x}{yp}$ final answer | **1** | | |
| 4 | $2p(p-4t)$ final answer | **2** | **B1** for $p(2p-8t)$ or $2\left(p^2-4pt\right)$<br>or for correct answer seen then spoiled | Condone omission of final bracket |
| 5(a) | Correct sketch<br> | **3** | **B2** for left branch correct<br>or for both branches correct but joined<br><br>or **B1** for left branch with slight error (e.g. curl back or not crossing $x$-axis) in shape or feathering<br><br>**B1** for right branch correct | Allow asymptotes of curves to touch axes but not cross<br><br>Condone slight feathering and penalise feathering only once |
| 5(b) | $-0.2$ or $-\frac{1}{5}$ | **1** | | Do not allow (– 0.2, 0) |
| 5(c) | (– 0.3, 18.5 or 18.51 to 18.52) | **2** | **B1** for each | Allow – 0.300.... and $\frac{500}{27}$ |
| 5(d) | $k \leqslant 0$ , $k >$ *their* 18.5 | **2** | **B1** for each<br><br>If 0 scored **SC1** for $0 \geqslant k >$ *their* 18.5 | Condone $k < 0$ but **not** $k \geqslant$ *their* 18.5<br><br>Allow $y$ and f($x$) for $k$ but not $x$<br>Condone use of 25 or – 5 in their inequalities. |

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| Question | Answer | Marks | Partial Marks | Guidance |
|---|---|---|---|---|
| 5(e) | Translation<br><br>$\begin{pmatrix}-1\\0\end{pmatrix}$ | **2** | **B1**<br><br>**B1** | More than one transformation scores 0.<br>Do not allow translocation.<br>Extra properties treat as choice.<br>Allow $\begin{pmatrix}-1\\0\end{pmatrix}$ vector in words e.g. 1 to the left<br>Shift to the left by –1 scores 0<br>Do not allow in coordinate form |
| 6(a) | 12 | **2** | **B1** for answer 2 or 3 or 4 or 6<br>or **M1** for $180 = 2 \times 2 \times 3 \times 3 \times 5$ and $96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$<br>or $2 \times 2 \times 3$ as final answer<br>or two fully correct factor trees or tables | |
| 6(b) | $x^{14}$ | **1** | | |
| 7 | 356 | **2** | **M1** for $(...) \times \left(1-\frac{20}{100}\right) = 284.80$ or better | e.g. $284.80 \div 0.8$<br>Do not accept e.g. 1 – 20% unless recovered |
| 8 | 10 | **2** | **B1** for $x = 36$ soi | e.g. Implied by $4x = 144$<br>Answer decagon, allow after 10 seen in working |
| 9 | $\frac{-(-1)\pm\sqrt{(-1)^2-4(3)(-3)}}{2(3)}$ | **M2** | **M1** for $\sqrt{(-1)^2-4(3)(-3)}$ or for $\frac{-(-1)\pm\sqrt{k}}{2(3)}$ | Accept 1 for $-(-1)$ and 1 for $(-1)^2$ and 6 for 2(3) and $\sqrt{1+36}$ but **not** $\sqrt{37}$ for $\sqrt{(-1)^2-4(3)(-3)}$<br>Allow recovery from $-1^2$ to 1 if seen<br>Square root sign must reach –4<br>Division sign must reach $\pm$ sign |
| | – 0.85, 1.18 | **B1** | | Allow – 0.847... , 1.180... surd answers score 0 |
| 10 | $[y =] \frac{2}{x^3}$ oe | **2** | **M1** for $\frac{1}{4} = \frac{k}{2^3}$ | |

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| Question | Answer | Marks | Partial Marks | Guidance |
|---|---|---|---|---|
| 11(a) | – 2.5 oe | **1** | | |
| 11(b) | $80\times\left(-\frac{1}{2}\right)^{n-1}$ oe | **2** | **M1** for $...\times\left(-\frac{1}{2}\right)^{k}$ or $...\div(-2)^{k}$ or $...\times(-2)^{-k}$<br><br>or **M1** for correct answer seen then spoiled<br><br>If 0 scored **SC1** for answer $80\times\left(\frac{1}{2}\right)^{n-1}$ oe<br><br>or e.g. $80\div-2^{n-1}$ i.e. correct but brackets omitted | e.g. $160\times\left(\frac{1}{2}\right)^{n}\times(-1)^{n-1}$ oe is full marks<br><br>e.g. $160\times\left(\frac{1}{2}\right)^{n}$ |
| 12(a) | 28 000 | **2** | **M1** for $\{...\}\times\left(1-\frac{10}{100}\right)^{2}=22\,680$ or better | Do not allow 1 – 10% unless recovered |

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| Question | Answer | Marks | Partial Marks | Guidance |
|---|---|---|---|---|
| 12(b) | 8 nfww | **4** | **B3** for 7.77 or 7.772...<br><br>OR<br>or **M3** for $n\log\left(1-\frac{10}{100}\right)=\log\left(\frac{10000}{22680}\right)$<br>oe<br>or good sketch indicating value between 7 and 8<br>or correct trials reaching 7 and 8<br><br>or **M2** for $\left(1-\frac{10}{100}\right)^n=\frac{10000}{22680}$ oe<br>or suitable sketch with $n > 1$<br>or at least 3 correct trials<br><br>or **M1** for $22680\times\left(1-\frac{10}{100}\right)^n=10000$ oe<br>soi by at least 2 correct trials with $n > 1$<br><br>If 0 scored, **SC2** for answer of 10 from using 28 000 | Do not allow 1 – 10% unless recovered<br><br>1 20 412<br>2 18 370.80<br>3 16 533.72<br>4 14 880.348<br>5 13 392.3132<br>6 12 053.08188<br>7 10 847.77369<br>8 9762.996323<br><br>Values to 3 sf acceptable for correct trials<br><br>Use of 28 000 – must lead to answer of 8 from 9.772 for full marks |
| 13(a) | $1.86\times10^{175}$ cao | **2** | **B1** for $18.6\times10^{174}$ or $k\times10^{175}$ | |
| 13(b) | $4.8\times10^{y}$ cao | **2** | **B1** for figs 48 × $10^k$ | |
| 14 | 10.1 or 10.07 to 10.08 | **2** | **M1** for $\left(\frac{h}{8}\right)^3=2$ oe or better or $\sqrt[3]{2}$ oe seen | not $\frac{2x}{x}$ for the 2 in $\left(\frac{h}{8}\right)^3=2$<br>allow $8\times2^{\frac{1}{3}}$ or $2^{\frac{10}{3}}$ oe<br>allow $8^3=512$, $512\times2=1024$ as oe for **M1** |

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| Question | Answer | Marks | Partial Marks | Guidance |
|---|---|---|---|---|
| 15(a) | 51.1 or 51.09... | **3** | **M1** for $\frac{1}{2}\times 4.5\times 9\times \sin 60$ oe<br>**M1** for $\frac{1}{2}\times 9\times 13\times \sin 35$ | 17.5370…<br>33.5542... |
| 15(b) | 32.9 or 32.92 to 32.93... | **5** | **M1** for $[AB =]$ 9sin60 or $\sqrt{9^2-4.5^2}$ oe<br>**M2** for $[AD=]\sqrt{9^2+13^2-2\times 9\times 13\cos 35}$ oe<br>or **M1** for $[AD^2=]9^2+13^2-2\times 9\times 13\cos 35$<br>**M1 dep** for 4.5 + *their AB* + 13 + *their AD*<br>**dep** on *their AB* and *their AD* coming from Pythagoras or trigonometry | 7.79 or 7.794...<br>May be done in stages. Allow **M2** after correct substitution in cos rule and square root soi later. Implied by 7.64 or 7.636 to 7.637<br>58.318....<br>Allow if values seen in **(a)** |
| 15(c) | 7.37 or 7.372... | **3** | **M2** for $\cos 35=\frac{\text{dist}}{9}$ or better oe<br>or $d^2=9^2-(9\sin 35)^2$ or better<br>or **M1** for recognising shortest distance | may be on diagram – must be clear perpendicular<br>$\frac{1}{2}\times 13\times$ *height* = *their* area *ADC*<br>or 9 sin35 or 5.16 or 5.162... imply **M1** |
| 16 | 9.47 or 9.468 to 9.469... | **3** | **M2** for $62.6\div\left(\frac{80}{360}\times\pi\right)$ oe or better<br>or **M1** for $\frac{80}{360}\times\pi r^2=62.6$ oe or better | $r^2$ = 89.65 to 89.67 or 89.7 for **M2**<br>For **M2** or **M1** condone use of 3.14 or 22/7 for π |

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| Question | Answer | Marks | Partial Marks | Guidance |
|---|---|---|---|---|
| 17(a) | 98.1 | **2** | **M1** for at least 3 mid-values soi | 30, 75, 105, 150<br>210, 2325, 4725, 2550<br>9810 |
| 17(b)(i) | 38, 83 | **1** | | |
| 17(b)(ii) | Correct curve | **2** | **B1 FT** for 3 or 4 points correctly plotted or for reasonable increasing curve or polygon through *their* 4 points | Mark curve first accuracy ± $\frac{1}{2}$ small square.<br>Ignore curve to left of (first upper limit)<br>Allow curve to imply plots. FT curve up to $\frac{1}{2}$ small square of their points.<br>Ignore blocks, blocks alone score 0. |
| 17(b)(iii)(a) | **FT** *their* median | **1** | **dep** on increasing curve or polygon | accuracy ± $\frac{1}{2}$ small square (± 2)<br>In all parts of **(iii)** do not FT a straight line |
| 17(b)(iii)(b) | **FT** *their* lower quartile | **1** | **dep** on increasing curve or polygon | accuracy ± $\frac{1}{2}$ small square (± 2) |
| 17(b)(iii)(c) | **FT** *their* 70 minutes | **1** | **dep** on increasing curve or polygon | accuracy ± $\frac{1}{2}$ small square (± 1) |
| 17(c) | trial of $\frac{n}{100}\times\frac{n-1}{99}$ oe<br>with $n$ = 7, 31, 45 or 17<br>or $n^2-n-1980=0$ oe | **M1** | | |
| | $90 < t \leqslant 120$ | **A1** | | |
| 18(a) | 60 | **1** | | |
| 18(b) | 340 | **1** | **FT** 100 + 4 × *their* 60 | |

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| Question | Answer | Marks | Partial Marks | Guidance |
|---|---|---|---|---|
| 18(c) | 65.4 or 65.37 to 65.38 | **2** | **M1** for cos (...) = $\frac{5}{12}$ oe<br><br>or for recognition of angle | Height of pyramid = $\sqrt{12^2 - 5^2}$ = 10.908.. for use with sine or tan<br><br>May be on diagram |
| 19 | $\frac{1+w}{1-x}$ oe final answer | **4** | **B1** for $(1-w)(1+w)$ oe<br><br>**B2** for $(1-w)(1-x)$ oe<br><br>or **B1** for $[1](1-w)-x(1-w)$ oe<br>or $[1](1-x)-w(1-x)$ oe | $-\frac{w+1}{x-1}$ scores full marks<br><br>$\frac{w+1}{-(x-1)}$ BOD full marks<br>$1-w-x(1-w)$ is **B0**<br>$1-x-w(1-x)$ is **B0** |

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