

Cambridge IGCSE™

MATHEMATICS**0580/12**

Paper 1 (Core)

May/June 2026**MARK SCHEME**Maximum Mark: 80

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.

This document consists of **14** printed pages.

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.

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.

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

Annotation	Meaning
	Communication mark
	Incorrect
	Follow through
Highlighter	Highlight a key point in the working
	Ignore subsequent work
	Method mark awarded zero
	Method mark awarded one
	Method mark awarded two
	Method mark awarded three
	Misread
	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.
	Premature rounding/approximation
	Special case
	Indicates that work/page has been seen
	Transcription error

Annotation	Meaning
	Correct
	Correct answer from incorrect working

PUBLISHED**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

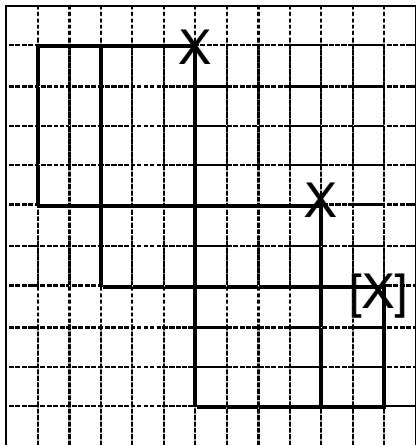
- M Method marks, awarded for a valid method applied to the problem.
- A Accuracy mark, awarded for a correct answer or intermediate step correctly obtained. For accuracy marks to be given, the associated Method mark must be earned or implied.
- B Mark for a correct result or statement independent of 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.

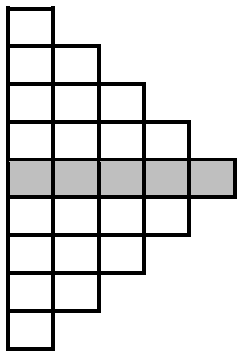
Abbreviations

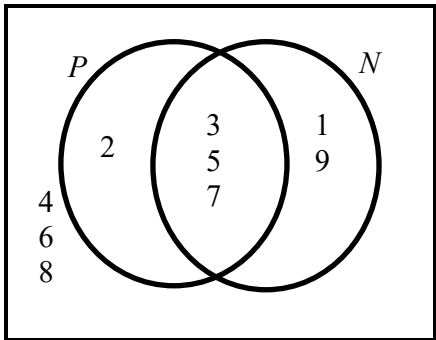
awrt	answers which round to
cao	correct answer only
dep	dependent
FT	follow through after error
isw	ignore subsequent working
nfwf	not from wrong working
oe	or equivalent
rot	rounded or truncated
SC	Special Case
soi	seen or implied

Question	Answer	Marks	Partial Marks	Guidance
1	9	1		Accept -9 or ± 9
2(a)	91	1		
2(b)	263	1		
3(a)	0.35 cao	1		Accept .35 and trailing zeros.
3(b)	80 cao	1		Accept trailing zeros.
4	11 to 14	1		
5(a)	65400 cao	1		
5(b)	[0].049 cao	1		No trailing zeros.
6(a)	$7 \times (3 - 2) \times 4 = 28$	1		More than one pair of brackets scores zero.
6(b)	$9 - (80 \div 8 - 6) = 5$	1		More than one pair of brackets scores zero.
7(a)	$\frac{11}{24}$ cao	2	B1 for $\frac{22k}{48k}$	k must be an integer.
7(b)	18 more squares shaded or clearly indicated	1		8 squares not shaded. May include fractions of squares provided total is 8 not shaded.
8	30	1		
9(a)	13	1		
9(b)	35	1		
9(c)	32	1		
10(a)	$7y - 52 = 78 - 6y$ oe	1		Accept a better or an equivalent equation. isw after a correct equation seen.

Question	Answer	Marks	Partial Marks	Guidance
10(b)	18	3	B2 for $y = 10$ OR M1FT for $7y + 6y = 78 + 52$ or better A1FT for $y = 10$	FT any 4-term equation equivalent to $\pm ay \pm b = \pm c \pm dy$ Marks may be awarded in part (a) if consistent with any working in part (b). An incorrect starting equation can only gain a maximum of 2 marks in part (b).
11(a)	2000	1		
11(b)	700	1		
12(a)	Cuboid	1		Allow rectangular cuboid. Allow unambiguous spellings.
12(b)		2	B1 for each	Mark extras as choice. Both correct and one extra, award B1 . One correct and two incorrect, scores 0.
13(a)	A trapezium drawn that is similar to trapezium T .	1		Not congruent to T . Allow sides to be unruled as long as intention clear – i.e. that their diagram is a trapezium and the lengths of the sides are unambiguous.

Question	Answer	Marks	Partial Marks	Guidance
13(b)	A rectangle with area 6cm^2	2	M1 for method to find area of trapezium e.g. $\frac{1}{2}(2+4)2$ or better	Allow sides to be unruled as long as intention clear i.e. that their diagram is a rectangle and the area, equal to 6cm^2 is unambiguous. Allow a different trapezium, or other shape, e.g. triangle, with area 6 scores M1.
14	14 cao	2	M1 $\frac{20}{7+3} \times k$ $k = 1, 3, 7$ or for $\frac{7}{10} \times 20$	May be implied by 2, 6, 14 or $14 : 6$
15	Two correct geometrical properties E.g. opposite sides are parallel opposite sides are of equal length	2	B1 for one correct geometrical property	
16	1.25	2	M1 for $\frac{1}{0.8}$ oe	Accept $\frac{5}{4}$ or $1\frac{1}{4}$ for 2 marks. Award M1 for e.g. $1 \div 0.8$, $1 \div \frac{8}{10}$, $\frac{10}{8}$, $\frac{50}{40}$
17(a)	50	1		
17(b)	144	2	M1 for $180 - \frac{360}{10}$ oe or $\frac{(10-2) \times 180}{10}$ oe	
18(a)	$8x + 5y$ final answer	2	B1 for $[+]8x$ or $[+]5y$ in final answer or for $8x + 5y$ seen then spoilt	$8x \times 5y$ scores B1 .
18(b)	$3x^2 - 16x - 35$ final answer	2	B1 for $3x^2 + 5x - 21x - 35$ with at least three terms out of a maximum of four correct	$-16x$ is two terms

Question	Answer	Marks	Partial Marks	Guidance
19(a)	3	1		Do not accept $\frac{3}{1}$.
19(b)(i)	19	1		
19(b)(ii)	-6	2	M1 for $-11 = 3w + 7$ or better	In M1, allow x for w .
20	$-4 < x \leq 5$	2	B1 for $-4 < x$ or $x \leq 5$	2 marks for $5 \geq x > -4$. 2 marks for $x > -4$ and $x \leq 5$. B1 for $x > -4$ or $5 \geq x$. Accept other letters for x , but not o .
21(a)		1		Accept missing internal lines. Their diagram must have some distinct indication for the grey squares.
21(b)	4 n 12 16 n^2	4	B2 for 4, 12 and 16 or B1 for two of 4, 12 and 16 correct B1 for n oe B1 for n^2 oe	Accept $1n$ or $1 \times n$ or $n + 0$ or n^1 for n . Accept $n + n(n-1)$ oe final answer. Accept $n \times n$, $n.n$, $n(n)$ for n^2 . Do not accept nn .
21(c)	120 is not a square number oe	1		e.g. $\sqrt{120}$ is an irrational number/non integer/not a whole number. Additional information needs to be correct.

Question	Answer	Marks	Partial Marks	Guidance
22(a)	$\frac{5}{12} \quad \frac{7}{12} \quad \frac{5}{12} \quad \frac{5}{12}$	2	B1 for $\frac{7}{12}$ correctly placed or $\frac{5}{12}$ correctly placed once	isw incorrect conversion to another form after correct answer seen. Accept decimal equivalents to at least 3 sf 0.4166 to 0.417 0.583 to 0.5833...
22(b)	$\frac{25}{144}$ oe	2	FT for <i>their</i> final answer M1 for <i>their</i> $\frac{5}{12} \times \text{their } \frac{5}{12}$ dep on proper fractions	Accept 0.1736... to 0.174 for 2 marks. $0 < \text{their } \frac{5}{12} < 1$
23	9	2	M1 for $18\pi = 2\pi r$ or better or $d = 18$	
24	6	3	M2 for $5 \times 10 - 4 \times 11$ or M1 for 4×11 or for 5×10	soi by 44 even in $\frac{44}{4} = 11$ soi by 50 even in $\frac{50}{5} = 10$
25(a)		2	B1 for 7 numbers correctly placed or for 3 regions correct	Repeated numbers are treated as choice. Ignore extra numbers for B1.
25(b)	6	1	FT <i>their</i> diagram provided the three regions of $P \cup N$ each have a number in them, all of which are different	Not a strict follow through.

Question	Answer	Marks	Partial Marks	Guidance
26(a)	6.32×10^3	1		Ignore superfluous zeros. Accept a comma for decimal point and a dot for multiplication.
26(b)	2.58×10^{-2}	1		Ignore superfluous zeros. Accept a comma for decimal point and a dot for multiplication.
27	$1\frac{7}{12}$ cao	3	B2 for final answer $\frac{19k}{12k}$ or $1\frac{7k}{12k}$ equivalent fraction OR B1 for $\frac{10}{3}$ and $\frac{7}{4}$ or $2\frac{1}{3} - \frac{3}{4}$ M1 for $\frac{10 \times 4}{3 \times 4}$ and $\frac{7 \times 3}{4 \times 3}$ or better or [3] $\frac{4 \times [1]}{3 \times 4}$ and [1] $\frac{3 \times 3}{3 \times 4}$ or [2] $\frac{4 \times 1}{3 \times 4}$ and $\frac{3 \times 3}{3 \times 4}$ or $\frac{28}{12}$ and $\frac{9}{12}$ or for $\frac{their 10 \times 4}{3 \times 4}$ and $\frac{their 7 \times 3}{4 \times 3}$	Work in decimals scores B0M0, but the correct answer could score 3. Correct step for dealing with mixed numbers. Allow $\frac{10k}{3k}$ and $\frac{7k}{4k}$ or $2 + \frac{1}{3} - \frac{3}{4}$ Correct step to deal with mixed numbers can come at a later stage. Correct method for finding a common denominator, $\frac{40}{12}$ and $\frac{21}{12}$. Implied by $3\frac{4}{12}$ and $1\frac{9}{12}$. <i>Their</i> 10 must be greater than 3 and <i>their</i> 7 must be greater than 4.

Question	Answer	Marks	Partial Marks	Guidance
28	$T = \frac{3-Q}{4}$ oe final answer	2	M1 for a correct first step $4T = 3 - Q$ or $Q - 3 = -4T$ or $\frac{Q}{4} = \frac{3}{4} - T$	For 2 marks accept e.g. $T = \frac{Q-3}{-4}$, $T = \frac{Q}{-4} - \frac{3}{-4}$, $T = 0.75 - 0.25Q$
29(a)(i)	Reflection $x = -0.5$ oe	2	B1 for each	Allow reflected or reflect. Accept poor spelling in both parts of (a) In parts (a)(i) and (a)(ii) : more than one transformation scores 0. Treat extra properties as choice.
29(a)(ii)	Rotation 90° clockwise oe [centre] (2,4)	3	B1 for each	Accept rotates or rotated but not rotational symmetry. Accept 90 cw, -90 , 270, 270 anticlockwise. Accept 2, 4. Accept the position vector $\begin{pmatrix} 2 \\ 4 \end{pmatrix}$ for centre (2, 4). Note: must be clearly identified as a position vector and not just a slip with brackets. If the centre has been described as a vector (word or bracket notation) then do not treat as additional transformation.
29(b)	Correct shape drawn with coordinates $(-2,1)(-4,1)(-3,0)(-5,-2)$ $(-3,-2)$	2	B1 for a translation by $\begin{pmatrix} 1 \\ k \end{pmatrix}$ or $\begin{pmatrix} k \\ -3 \end{pmatrix}$	