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MATHEMATICS **0580/11**

Paper 1 (Core) **October/November 2025**

MARK SCHEME

Maximum Mark: 80

Published

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptions for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

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- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors 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
	Communication mark
	Incorrect
	Follow through
Highlighter	Highlight a key point in the working
	Ignore subsequent work
	Method mark awarded zero
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Annotation	Meaning
M3	Method mark awarded three
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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.
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Pre	Premature rounding/approximation
SC	Special case
SEEN	Indicates that work/page has been seen
TE	Transcription error
	Correct
XP	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.

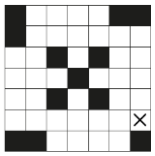
B Mark for a correct result or statement independent of Method marks.

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.

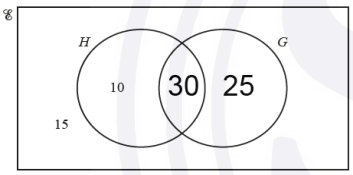
Abbreviations

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

Question	Answer	Marks	Partial Marks
1(a)	460 005	**1**	
1(b)	52 100 cao	**1**	
2(a)	Diameter drawn	**1**	
2(b)	Point marked on circumference	**1**	
3	Hexagon	**1**	
4(a)	1 2 3 4 6 8 12 24	**2**	**B1** for 6 correct and no extras or 8 correct and one extra
4(b)	$\frac{7}{3}$ oe	**1**	

Question	Answer	Marks	Partial Marks
5	Accurate triangle with correct construction arcs	**2**	**B1** for correct triangle with incorrect or no arcs or for two correct intersecting arcs with incorrect or no lines If 0 scored, **SC1** for triangle with arcs but lines interchanged
6		**1**	
7(a)	–7	**1**	
7(b)	Subtracted 4 oe	**1**	
8	20	**2**	**M1** for $50 = 3q - 2 \times 5$ or better
9(a)	15 rectangles shaded	**1**	
9(b)	12	**2**	**M1** for full correct method e.g. $80 \times \frac{15}{100}$ oe
10(a)	Correct bar for August	**1**	
10(b)	7 nfww	**2**	**M1** for $(3 + 9 + 7 + 11 + 8 + 4) \div 6$ or better
11(a)	7	**1**	
11(b)	6	**1**	
12	Fully correct net	**3**	**B2** for 3 correct extra faces in correct places or **B1** for 1 correct extra face in correct place
13(a)	80	**2**	**B1** for 8 or **M1** for *their* 8 × 10
13(b)	032	**1**	
13(c)	Point correctly plotted	**2**	**B1** for distance 4.3 to 4.7 cm from *A* or **B1** for bearing 308º to 312º from *A*
14(a)	0 | 8 9 1 | 0 1 2 2 3 7 2 | 2 6 7 8	**2**	**B1** for a correct ordered diagram with one error or omission or for a correct but unordered stem-and-leaf diagram
14(b)	3	**1**	

Question	Answer	Marks	Partial Marks
14(c)	$\frac{12+13}{2}$ oe leading to 12.5 nfww	**1**	
15	100	**3**	**M2** for 180 – (180 –140) × 2 oe or **M1** for 180 – 140 or for 180 – (2 × *their* 40)
16(a)	–4.5 3	**2**	**B1** for each
16(b)	Correct graph drawn	**4**	**B3FT** for 9 points correctly plotted or **B2FT** for 7 points correctly plotted or **B1FT** for 5 correctly plotted
17(a)	23 or 29	**1**	
17(b)	9 cao	**1**	
18	$\frac{7}{18}$ cao	**2**	**M1** for $\frac{11}{18} - \frac{4}{18}$ oe
19	$\frac{5\times20}{2}$	**M1**	
	50 cao	**A1**	If 0 scored **SC1** for 2 correct roundings or for all 3 correct but with any trailing zeros
20	125	**2**	**M1** for 75 ÷ 3 [× 5] oe
21(a)	Rotation 90 anticlockwise oe (0,0) oe	**3**	**B1** for rotation **B2** for 90 anticlockwise **and** (0, 0) or for 90 clockwise **and** (0.5, 3.5) **or B1** for 90 anticlockwise **or** 90 clockwise **or** (0, 0) **or** (0.5, 3.5)
21(b)	Rectangle with vertices at (1, –3) (3, –3) (3, –4) (1,–4)	**2**	**B1** for reflection in $y = k$ or in $x = –1$
22(a)	200	**1**	

Question	Answer	Marks	Partial Marks
22(b)	No and a correct statement based on correct reasoning or calculations	**2**	**B1** for a correct statement without support e.g. 30g is needed for 18 cookies oe or 2g more [than 28g] for 18 cookies oe or 28g would only give 16 cookies oe or 8g would only give 4 more cookies oe or **M1** for correct calculation $\frac{18}{12}\times 20$ oe or $\frac{6}{12}\times 20$ oe or $\frac{28}{20}\times 12$ oe or $\frac{8}{20}\times 12$ oe or $\frac{20}{12}$ **and** $\frac{28}{18}$ oe
23(a)	7 cao	**1**	
23(b)	3 cao	**1**	
24(a)		**2**	**B1** for one correct value correctly placed If 0 scored, **SC1** for two positive integers such that n(G) = 55
24(b)	55	**1**	**FT** *their* 30 + *their* 25 provided *their* 30 + *their* 25 is less than 80
24(c)	$\frac{15}{80}$ oe	**1**	
25	$x^2 + x - 6$ final answer	**2**	**B1** for $x^2 + 3x - 2x - 6$ oe with at least three terms correct
26	175 300 000 cao	**1**	
27	$8\pi + 16$ or $8(\pi + 2)$ final answer	**3**	**M2** for [perimeter =] $\frac{8+8}{2}\times\pi + 8 + 8$ oe or $8\pi + 16$ oe seen and then spoilt or **M1** for [arc =] $\frac{8+8}{2}\times\pi$ oe

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28	$5\frac{1}{3}$ cao	**3**	**B2** for $\frac{16}{3}$ oe or $5\frac{13}{39}$ oe or **M2** for $\frac{26}{3} \times \frac{8}{their\,13}$ oe or $\frac{their\,26}{3} \times \frac{8}{13}$ oe or **B1** for $\frac{26}{3}$ oe or $\frac{13}{8}$ oe
29	$15a + 10p = 42.5$ oe $4a + 5p = 16$ oe	**2**	**B1** for each
	[*apple* =] 1.5[0] cao [*pear* =] 2[.00] cao	**3**	**M1FT** for correctly eliminating one variable from *their* equations. **A1** for 1.5 **A1** for 2 If M1 A0 or M0 scored, **SC1** for two positive costs which satisfy one of original conditions

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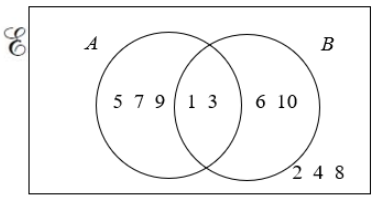
SC Special Case
soi seen or implied

Question	Answer	Marks	Partial Marks
1	3000	**1**	
2	3.6[0]	**2**	**M1** for $20 - 2 \times 8.20$ or **B1** for 16.4[0]
3(a)	17470 cao	**1**	
3(b)	5.1 cao	**1**	
4(a)	12	**1**	
4(b)	125 cao	**1**	
5(a)	3 correct lines	**2**	**B1** for two correct lines and no extras or 3 correct lines and one extra
5(b)	3	**1**	
6(a)	0.75	**1**	
6(b)	9	**1**	

Question	Answer	Marks	Partial Marks
6(c)	1.43 cao	**1**	
7(a)	Arrow labelled A on 0.5	**1**	
7(b)	Arrow labelled B on 0	**1**	
7(c)	Arrow labelled C on 0.25	**1**	
8	9, 18, 36, 72, 144	**3**	**B2** for 3 correct and no extras or 5 correct and 1 extra as the answer or **B1** for two correct and no extras or **M1** factors of 144 up to 72 or multiples of 9 up to 72
9(a)	12	**1**	
9(b)	8	**1**	
10	$\frac{2}{5}$ oe	**1**	
11(a)	42	**1**	
11(b)	54	**1**	
11(c)	30	**2**	**B1** for $\frac{6}{20}$ oe
11(d)(i)	52	**1**	
11(d)(ii)	Decrease AND acceptable reason e.g. 48 is below the median	**1**	
12(a)	$4x = 200$ oe	**M3**	**M2** for $x - 30 + 3x + 10 = 180$ oe **M1** for attempt to simplify to $ax - b = c$ or $ax = b + c$ OR If M0 scored **M2** for correct simplification to $ax = b + c$ FT from *their* linear equation or **M1** for correct simplification to $ax - b = c$ FT from *their* linear equation OR If M0 award **SC2** for answer of 50 from no working or from no incorrect working
	50	**A1**	

Question	Answer	Marks	Partial Marks
12(b)	160 nfww	**1**	**FT** 3 × *their* 50 + 10
13	Fully correct net	**3**	**B2** for the two correct rectangles, in either order below the given face **and** two 3,4,5 triangles, one on each side or **B1** for 1 correct rectangle in either place below the given face or for two 3, 4, 5 triangles, one each side
14	10	**3**	**B2** for any two correct angles identified from $BDF = 85$, $FDE = 70$ and $DFE = 100$ or **B1** for any one of them OR **B1** for $AED = 55$ and **B1** for $CEF = 115$
15	900	**3**	**M2** for $\frac{120}{2} \times (10 + 3 + 2)$ oe or **M1** for $\frac{120}{2}$ [$\times k$] (k = 1, 3 or 10)
16	6.5×10^{-2}, 9.857×10^{-2}, 1.54×10^{1}, 3.5×10^{2}	**2**	**B1** for 3 in the correct order or **M1** for 0.09857, 350, 15.4, 0.065 oe
17	66	**2**	**M1** for $\frac{8+14}{2} \times 6$ oe
18	$\frac{2}{3}$ cao	**3**	**M2** for $\frac{17}{6} \times \frac{4}{17}$ or **M1** for $\frac{\textit{their}17}{6} \times \frac{4}{\textit{their}17}$ or **B1** for $\frac{17}{6}$ or $\frac{17}{4}$ or $\frac{4}{17}$ Alternative : **M2** for $\frac{34}{12} \div \frac{51}{12}$ or **M1** for $\frac{\textit{their}34}{12} \div \frac{\textit{their}51}{12}$
19(a)	Fully correct reflection, points (−4, 5) (−5, 5) (−4, 4) (−5, 4) (−4, 2)	**2**	**B1** for a correct reflection in $x = k$ or $y = -1$
19(b)	Fully correct rotation, points (−2, −2) (−2, −4) (−2, −5) (−3, −5) (−3, −4)	**2**	**B1** for a correct rotation of 180° about the wrong centre

Question	Answer	Marks	Partial Marks
19(c)	Translation $\begin{pmatrix} 2 \\ -6 \end{pmatrix}$	**2**	**B1** for each
20(a)		**2**	**B1** for at least 8 elements in the correct place
20(b)	1, 3	**1**	**FT** *their* **(a)**
20(c)	6	**1**	**FT** *their* **(a)**
21	$2x^6$ final answer	**2**	**B1** for kx^6 or $2x^c$ as final answer or $2x^6$ seen and spoilt
22	120	**2**	**M1** for $180 - (360 \div 6)$ oe or $\frac{(6-2)\times 180}{6}$ oe
23	$4a + 20b = 130$ oe $6a + 15b = 105$ oe	**2**	**B1** for each
	$[a =]$ 2.5 $[b =]$ 6	**4**	**M1FT** for correctly equating one set of coefficients **M1FT** for correct method to eliminate one variable **A1** for $a = 2.5$ **A1** for $b = 6$ If A0 scored, **SC1** for two positive costs which satisfy one of the original conditions
24	54	**1**	
25(a)	$x^2 - 3x - 10$ final answer	**2**	**B1** for $x^2 - 5x + 2x - 10$ with at least 3 terms correct
25(b)	$5x(x^2 + 2)$ final answer	**2**	**B1** for $5(x^3 + 2x)$ or $x(5x^2 + 10)$ or $5x(x^2 + 2)$ seen and spoilt
26	16.315 16.325	**2**	**B1** for each If 0 scored, **SC1** for both correct but reversed
27(a)	$6n - 4$ oe final answer	**2**	**B1** for $6n + c$ or $kn - 4$ ($k \neq 0$) or $6n - 4$ seen and spoilt

Question	Answer	Marks	Partial Marks
27(b)	11 14 19	**2**	**B1** for two correct terms in the correct places

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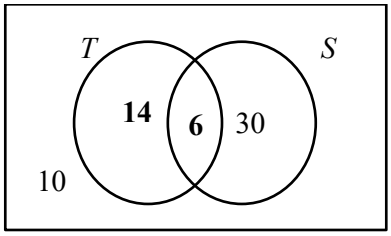
SC Special Case
soi seen or implied

Question	Answer	Marks	Partial Marks
1(a)	5.6	**1**	
1(b)	Ruled line parallel to *AB*	**1**	
2(a)	Eighty-three thousand [and] forty-two	**1**	
2(b)	700	**1**	
2(c)(i)	8500	**1**	
2(c)(ii)	8450	**1**	
3(a)	123	**1**	
3(b)	Obtuse	**1**	
4	4 8 1 5 2	**2**	**B1** for 3 correct frequencies If 0 scored **SC1** for all correct tallies if frequency column blank or for all correct frequencies but in tally column

Question	Answer	Marks	Partial Marks
5(a)	(–1, 2)	**1**	
5(b)	trapezium	**1**	
5(c)	16	**1**	
5(d)	Point plotted at (–3,2)	**1**	
6	72	**2**	**M1** for 12^2 [÷ 2]
7	5[hours] 15[minutes] cao	**1**	
8(a)	0 | 4 4 8 1 | 0 3 4 6 7 9 2 | 3 7	**2**	**B1** for a correct diagram with one error or omission or for a fully correct unordered stem-and-leaf diagram
8(b)	14	**1**	
9(a)	32	**1**	
9(b)	1	**1**	
10(a)	70	**2**	**M1** for $\frac{180-40}{2}$ oe
10(b)	110	**1**	**FT** 180 – *their* **(a)**
	Angles on a straight line add to 180 oe nfww	**1**	
11(a)	45	**3**	**M2** for $\frac{345-(3\times 40)}{5}$ oe or **M1** for 345 – (3 × 40) or **B1** for 120
11(b)	$55x + 36y$ final answer	**2**	**B1** for $55x$ or $36y$ in final answer or final answer seen and spoilt If 0 scored **SC1** for $0.55x + 0.36y$
12(a)	y	**1**	
12(b)(i)	14	**1**	
12(b)(ii)	2	**2**	**M1** for $6x = 7 + 5$ or $x - \frac{5}{6} = \frac{7}{6}$ or better
13	$-5 \leqslant x < 1$ oe	**2**	**B1** for $-5 \leqslant x$ or $x < 1$

Question	Answer	Marks	Partial Marks
14	2400 nfww	**3**	**B2** for 400 nfww or **M2** for $2000 \times \frac{5}{100} \times 4 + 2000$ or **M1** for $2000 \times \frac{5}{100}$ [× 4]
15(a)	0.047	**1**	
15(b)	8.5	**1**	
16	4800	**3**	**M2** for $\frac{1400}{7} \times (4+7+13)$ oe or **M1** for $\frac{1400}{7}$ [× k] (k = 1, 4 or 13)
17(a)	15	**1**	
17(b)	$x^2 + x - 20$ final answer	**2**	**B1** for $x^2 - 4x + 5x - 20$ with at least 3 terms correct
17(c)	$7r(3r^2 - 1)$ final answer	**2**	**B1** for $7(3r^3 - r)$ or $r(21r^2 - 7)$ or for $7r(3r^2 - 1)$ seen then spoilt
18	64π	**2**	**M1** for $\left(\frac{16}{2}\right)^2$
19	18	**2**	**M1** for $\frac{360}{180-160}$ or for $\frac{180(n-2)}{n} = 160$
20	179.5 180.5	**2**	**B1** for each If 0 scored **SC1** for both correct but reversed
21(a)	22	**1**	
21(b)	Add 7	**1**	
21(c)(i)	$7n - 13$ oe final answer	**2**	**B1** for $7n + j$ or $kn - 13$ $k \neq 0$, or $7n - 13$ seen then spoilt
21(c)(ii)	$7n - 13 = 688$ oe $7n = 701$	**1**	**FT** *their* nth term $an + b$ if $a > 1$ and $b \neq 0$
	No, 701 is not divisible by 7 oe nfww	**1**	
22	Enlargement Centre (0,0) [Scale factor] 3	**3**	**B1** for each

Question	Answer	Marks	Partial Marks
23(a)	$A \cap B$	**1**	
23(b)(i)		**2**	**B1** for 14 in correct place **B1** for 6 in correct place If 0 scored **SC1** for n(T) = 20
23(b)(ii)	40	**1**	
24(a)	1 200 000	**1**	
24(b)	250	**2**	**M1** for 70 + 180 or correct diagram indicating angle
25	$1\frac{1}{4}$ cao	**3**	**B2** for $1\frac{3}{12}$ or $\frac{15}{12}$ or $\frac{5}{4}$ oe or **B1** for $\frac{5}{3}$
26(a)	Correct tree diagram	**2**	**B1** for 0.6 on the first branch or 0.7 and 0.3 correct on all second branches
26(b)	0.18 oe	**2**	**FT** *their* tree diagram for 2 marks **M1** for *their* 0.6 × *their* 0.3
27	In standard form the value is written as $a \times 10^n$ where $1 \leqslant a < 10$ and 85.1 is greater than 10 oe	**1**	

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MATHEMATICS **0580/11**

Paper 1 (Core) **May/June 2025**

MARK SCHEME

Maximum Mark: 80

Published

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Generic Marking Principles

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- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

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Question	Answer	Marks	Partial Marks
1(a)	Ten thousand [and] sixty-nine	**1**	
1(b)	10 070	**1**	
1(c)	100.69	**1**	
2	1.6[0]	**2**	**B1** for 3.4[0] or **M1** for 5 – 10 × 0.34 oe
3	–5 3	**2**	**B1** for answer of two numbers that add to –2 or multiply to –15
4(a)	112	**1**	
4(b)	49	**1**	
4(c)	7	**1**	
4(d)	7	**1**	
5	$\frac{1}{5}$ or [0].2	**1**	
6(a)	(7 – 5) × 4 + 8 = 16	**1**	
6(b)	7 – (5 × 4 + 8) = – 21	**1**	
7(a)	18*t* final answer	**1**	
7(b)	*n* + 16 final answer	**1**	
8(a)	$\frac{9}{10}$ cao	**1**	
8(b)	[0].03	**1**	
9(a)(i)	Subtract 7 oe	**1**	
9(a)(ii)	5 –2	**2**	**B1** for either in this order or **SC1** for second number = first number – 7
9(b)	4*n* + 15 oe final answer	**2**	**B1** for final answer 4*n* + *j* or *kn* + 15 ($k \neq 0$) or 4*n* + 15 seen then spoilt
10(a)	14	**1**	
10(b)	40	**1**	
10(c)	11 50	**1**	

Question	Answer	Marks	Partial Marks
10(d)	Ruled line from (9 40, 0) to (10 20, 14)	**2**	**M1** for $\frac{\textit{their}\,\textbf{(a)}}{21}$ oe or a parallel line
11	27	**1**	
12	−5 cao final answer	**2**	**M1** for $5x - 3x = -2 - 8$ oe or better
13(a)	20	**1**	
13(b)	–11	**1**	
14	6 final answer	**1**	
15	Correct net	**3**	**B2** for 3 correct extra faces in correct places or **B1** for 1 correct extra face in correct place
16(a)	$5a - b$ final answer	**2**	**B1** for $5a$ or $-b$ in final answer or for $5a - b$ seen then spoilt
16(b)(i)	$3(2x + 5y)$ final answer	**1**	
16(b)(ii)	$xy(x - 5)$ final answer	**2**	**B1** for $x(xy - 5y)$ or $y(x^2 - 5x)$ or $xy(x - 5)$ seen then spoilt
17	$\frac{40+20}{2\times6}$	**M1**	
	5 nfww	**A1**	If 0 scored **SC1** for 3 correct roundings or for all correct but with trailing zeros
18(a)	50 alternate angles	**2**	**B1** for each
18(b)	110 corresponding angles	**2**	**B1** for each
18(c)	60	**2**	**M1** for 180 – (180 – 110) – 50 oe or 70 marked as third angle in triangle
19(a)	Correct tree diagram	**3**	**B1** for $\frac{1}{5}$ oe **and** $\frac{4}{5}$ seen oe **M1** for either $\frac{1}{5}$ **or** $\frac{4}{5}$ in the correct place in the **first** branch If 0 scored, **SC1** for their two probabilities adding to 1 in the **first** branch

Question	Answer	Marks	Partial Marks
19(b)	$\frac{16}{25}$ oe	**2**	**FT** *their* **(a)** probabilities provided 0 < each of *their* $\frac{4}{5}$ < 1 **M1** for *their* $\frac{4}{5}$ × *their* $\frac{4}{5}$
20(a)	2 points accurately plotted	**1**	
20(b)	Negative	**1**	
20(c)(i)	Correct ruled line of best fit	**1**	
20(c)(ii)	275	**1**	**FT** *their* straight line of best fit with negative gradient
21	51	**2**	**M1** for 90 – 39 oe or angle *ABC* identified as 90
22(a)	3	**1**	
22(b)	360	**2**	**B1** for answer 360*k*, $k > 1$ or **M1** for $2^3 \times 3^2 \times 5$ oe or for 24, 48, 72… **and** 45, 90, 135… seen
23(a)	Correct rotation, points at (1, –1), (3, –1) and (1, –4)	**2**	**B1** for correct rotation 90° anti-clockwise or correct rotation with incorrect centre
23(b)	Translation $\begin{pmatrix}-6\\-4\end{pmatrix}$	**2**	**B1** for each
23(c)	Enlargement [scale factor] 2 [centre] (0, -2)	**3**	**B1** for each Angle mentioned
24	$3\frac{1}{12}$ nfww	**3**	**B1** for $\frac{4}{3}$ **or** $\frac{7}{4}$ oe or for $2 + \frac{1}{3} + \frac{3}{4}$ oe **M1** for $\frac{16}{12}$ **and** $\frac{21}{12}$ or $\frac{4}{12}$ **and** $\frac{9}{12}$
25(a)	3.25×10^4	**1**	
25(b)	[0].0056	**1**	

Question	Answer	Marks	Partial Marks
26	[x =] 5 [y =] −1 nfww	**4**	**M1** for correctly equating one set of coefficients **M1** for correct method to eliminate one variable **A1** for $x = 5$ **A1** for $y = -1$ If A0 scored, **SC1** for 2 values satisfying one of the original equations.

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MATHEMATICS **0580/12**

Paper 1 (Core) **May/June 2025**

MARK SCHEME

Maximum Mark: 80

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Question	Answer	Marks	Guidance
1	16 062	**1**	
2(a)	0.75	**1**	
2(b)	75	**1**	
3(a)	6	**1**	
3(b)	1000 cao	**1**	
4(a)	83	**1**	
4(b)	ruled perpendicular line through P	**1**	
5	70	**1**	
6	14 squares shaded	**1**	
7(a)	3	**1**	
7(b)	$\frac{1}{8}$ cao	**1**	
8(a)	$-12+4\div(2-3)=-16$	**1**	
8(b)	$-3-(4+5-7)=-5$	**1**	
9	$\frac{13}{24}\ \frac{5}{8}\ \frac{2}{3}\ \frac{3}{4}\ \frac{11}{12}$	**2**	**B1** for 4 fractions in the correct order or **M1** for 3 fractions correctly changed to have the same denominator, $24k$ or for 3 correct decimal equivalents
10(a)	Fully correct net	**3**	**B2** for 4 correct faces in correct places or **B1** for 2 correct faces in correct places
10(b)	30 cm^3	**2**	**B1** for 30 **B1** for cm^3
11(a)	2	**1**	
11(b)	7	**1**	
11(c)	2.5 or $2\frac{1}{2}$	**1**	
11(d)	3	**2**	**M1** for $\frac{[0+]2+2+3+4+7}{6}$

Question	Answer	Marks	Guidance
12	85 × 99 $85\times100-85$ $8500-85$	**M1**	
	8415	**A1**	
13(a)	rhombus	**1**	
13(b)	two properties stated that are better than any applying to all quadrilaterals.	**2**	**B1** for one property
13(c)	A correct drawing of a trapezium with perpendicular height 3 cm and parallel sides 4 cm and 6 cm	**3**	**B2** for trapezium perpendicular height 3 cm or **B1** for a trapezium drawn with sides 4 cm and 6 cm but height ≠ 3 Or **M1** for $\frac{1}{2}(4+6)\times h=15$ or better **A1** [h =] 3 If 0 scored, **SC1** for a parallelogram or rectangle drawn with height 3 cm or h = 3 with no/wrong working
14(a)	[6], 0, [−4], -6, -6, [−4], 0, 6	**3**	**B2** for 3 correct **B1** for 1 correct
14(b)	Correct curve	**4**	**B3FT** for 7 points correctly plotted or **B2FT** for 5 points correctly plotted or **B1FT** for 3 points correctly plotted
14(c)	(–0.5, k) where $-6.6\leqslant k<-6$	**1**	
14(d)	$x=-0.5$ oe	**1**	
14(e)	−3.6 to −3.4 2.4 to 2.6	**2**	**FT** their curve **B1** for each or **B1** for $y=3$ drawn
15	8	**2**	**B1** for 64 seen or **M1** for $n^2-55=9$ or better.
16(a)	6	**1**	
16(b)(i)	4, –3	**1**	
16(b)(ii)	–16, 9	**1**	**FT** *their* **(b)(i)**
16(c)	Triangle drawn with coordinates $(1,-2),(2,-2)$ and $(2,-5)$	**2**	**B1** for reflection in $y=k$ or in $x=-1$

Question	Answer	Marks	Guidance
16(d)(i)	Enlargement [scale factor] 2 [centre] $(-1,0)$	**3**	**B1** for each
16(d)(ii)	Rotation 90° clockwise [centre] (2,3)	**3**	**B1** for each
17	$\frac{20+10}{6}$ nfww	**M1**	
	5 nfww	**A1**	If 0 scored **SC1** for 2 correct roundings or for all correct but with trailing zeros
18	22	**2**	**B1** for answer 2 or 11 or **M1** for 2×11 as final answer or $66=2\times3\times11$ and $110=2\times5\times11$ or for 2 correct tables or factor trees
19(a)	17	**1**	
19(b)	$-2\leqslant x<7$ final answer	**2**	**B1** for $x\geq-2$ or $x<7$
20	$J\cup K$	**1**	
21	$3\frac{1}{3}$ cao nfww	**3**	**B2** for $\frac{10}{3}$ OR **M1** for $\frac{25}{9}$ and $\frac{6}{5}$ **A1** for $\frac{150}{45}$ If 0 scored **SC1** for $\frac{25}{9}$ or $\frac{6}{5}$ seen.
22	3.15 3.25	**2**	**B1** for each If 0 scored **SC1** for both correct but reversed or for $3150\leq m<3250$
23(a)	$3x(3-2y)$ final answer	**2**	**B1** for answer of $3(3x-2xy)$ or $x(9-6y)$ or for $3x(3-2y)$ seen then spoilt
23(b)	$2x^2-5x-12$ final answer	**2**	**B1** for $2x^2+3x-8x-12$ with at least 3 terms correct or for $2x^2-5x-12$ seen then spoilt

Question	Answer	Marks	Guidance
24	$[x =] -3$ $[y =] 9$ nfww	**3**	**M1** for correctly eliminating one variable **A1 f**or $x = -3$ **A1** for $y = 9$ If A0 scored **SC1** for 2 values satisfying one of the original equations
25	$11\pi + 6$ final answer	**3**	**B2** for $11\pi + k, \quad k \geqslant 0$ as final answer or for correct answer seen and spoilt or **M2** for $7\pi + 4\pi + 2 \times (7 - 4)$ oe or **M1** for 7π or 4π or $[2\times](7 - 4)$ oe

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MATHEMATICS **0580/13**

Paper 1 (Core) **May/June 2025**

MARK SCHEME

Maximum Mark: 80

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the May/June 2025 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptions for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors 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
	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

Annotation	Meaning
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
	Correct
XP	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.

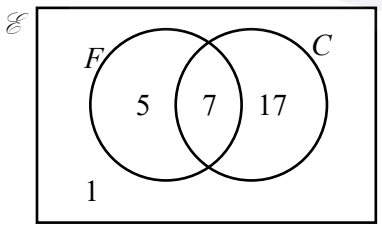
B Mark for a correct result or statement independent of Method marks.

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

Question	Answer	Marks	Partial Marks
1(a)	Seventy million(s) cao	**1**	
1(b)(i)	$\frac{5}{100}$ or $\frac{1}{20}$	**1**	
1(b)(ii)	4	**2**	**M1** for $\frac{1}{0.25}$ oe or $\frac{4}{1}$
2(a)	Obtuse	**1**	
2(b)	Congruent	**1**	
3(a)	13	**1**	
3(b)	16	**1**	
3(c)	$\frac{1}{100}$ or 0.01	**1**	
3(d)	$\frac{9}{2}$ or 4.5 or $4\frac{1}{2}$	**1**	
3(e)	0.032	**1**	
4(a)	Rhombus	**1**	
4(b)	60	**2**	**M1** for $a + 2a = 180$ oe or better
5(a)	31	**1**	
5(b)	32	**1**	
6(a)(i)	10	**2**	**M1** for at least the first four or last four correctly ordered
6(a)(ii)	70	**1**	
6(b)	1.25 or $1\frac{1}{4}$	**1**	
7	20	**3**	**M2** for $70-\left(15+\frac{15\times 7}{3}\right)$ oe or **M1** for $\frac{15}{3}\times k$, $k = 1$, 7 or 10
8(a)	3, 3, 5	**1**	

Question	Answer	Marks	Partial Marks
8(b)	Fully correct net	**3**	**B2** for 2 correct extra faces in correct places or **B1** for 1 correct extra face in correct place
8(c)	45	**2**	**FT** *their* dimensions from **(a)** **M1** for 3 × 3 × 5 oe
9(a)	65	**2**	**M1** for $4\times\frac{1}{2}\times5\times4 + 5\times5$ oe
9(b)	8	**1**	
10(a)	Circle around the statement Line A is parallel to line B	**1**	
10(b)	Correct graph of $y = 2x - 1$	**2**	**B1** for short or unruled line or for two correct coordinates plotted or for line with positive gradient passing through (0, –1) or for line with gradient 2
11(a)	30 nfww	**2**	**M1** for $\frac{120}{360}\times90$ oe
11(b)	Sector 80° drawn on pie chart	**1**	
11(c)(i)	36	**2**	**M1** for $\frac{9}{90}\times360$ oe
11(c)(ii)	Completed pie chart	**1**	**FT** *their* **(c)(i)** dependent on *their* **(c)(i)** < 60°
12(a)		**2**	**B1** for two correct values in the correct position
12(b)	24	**1**	**FT** *their* diagram provided a value in both sections of C
13	$\frac{60}{10\times0.5}$	**M1**	
	12	**A1**	If 0 scored, **SC1** for 2 correct roundings or for all correct but with any trailing zeros

Question	Answer	Marks	Partial Marks
14	6 nfww	**2**	**M1** for $\frac{1}{2}(4+10)h = 42$ oe or better
15(a)	$-4 \leqslant x < 3$	**2**	**B1** for $-4 \leqslant x$ or $x < 3$
15(b)	–3 cao	**1**	
16	27	**3**	**B2** for 10 or $10x$ or **M1** for [5 ×] $\left(x + \frac{20}{100}x\right)$ oe
17(a)	y^{10}	**1**	
17(b)	p^{-3} or $\frac{1}{p^3}$	**1**	
17(c)	w^{12}	**1**	
18(a)	25 base angles of an isosceles triangle are equal	**2**	**B1** for either
18(b)	140	**3**	**M2** for [*ORS* =]180 – (90 + *their* 25 + 25) oe or **B1** for *OSR*= 90 or *ROS* = 50
19	$\frac{3}{2}\pi$, $1\frac{1}{2}\pi$, or 1.5π	**2**	**M1** for $\frac{60}{360} \times \pi \times 3^2$ oe
20	18	**2**	**B1** for answer 2 or 3 or 6 or 9 or **M1** for 2 × 3 × 3 oe as final answer or 36 = 2 × 2 × 3 × 3 and 54 = 2 × 3 × 3 × 3 or 2 correct factor trees or tables
21	$3x = 15$	**M3**	**M2** for $2x + 1 + x + 3 + 9 = 2(x + 2x – 1)$ or better or **M1** for rearranging their equation to give $ax = b$ or **B1** for $3x + 13$ or $6x – 2$
	5	**A1**	dep on at least M2 If 0 scored, **SC1** for answer 5 with no algebra

Question	Answer	Marks	Partial Marks
22	$3(g + 8)$ or $3g + 24$	**2**	**M1** for $g+8=\frac{h}{3}$ or $3g = h - 24$
23	6 nfww	**2**	**M1** for $\frac{1.5}{x}=\frac{2}{8}$ oe or better
24	$1\frac{13}{14}$ cao nfww	**3**	**B2** for $\frac{27}{14}$ or **B1** for $\frac{7k}{2k}$ or $\frac{11k}{7k}$ **M1** for $\frac{49}{14}$ and $\frac{22}{14}$ or $3\frac{7}{14}$ and $1\frac{8}{14}$ or $\frac{\textit{their}\ 7\times7}{2\times7}$ and $\frac{\textit{their}\ 11\times2}{7\times2}$ or $[1]\frac{21}{14}$ and $\frac{8}{14}$ or $\frac{35}{14}$ and $\frac{8}{14}$ or $[2]\frac{7}{14}$ and $\frac{8}{14}$
25	$[x =]$ 3 final answer nfww $[y =] -4$	**3**	**M1** for correctly eliminating one variable OR **M1** for correct substitution of x or y into the other equation **A1** for $x = 3$ **A1** for $y = -4$ If A0 scored, **SC1** for 2 values satisfying one of the original equations.

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MATHEMATICS **0580/12**

Paper 1 (Core) **February/March 2025**

MARK SCHEME

Maximum Mark: 80

Published

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[Turn over

Generic Marking Principles

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GENERIC MARKING PRINCIPLE 1:

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- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

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- marks are awarded when candidates clearly demonstrate what they know and can do
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- marks are not deducted for omissions
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GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

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GENERIC MARKING PRINCIPLE 6:

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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

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	Accuracy mark awarded one
	Accuracy mark awarded two
	Accuracy mark awarded three
	Independent mark awarded zero
	Independent mark awarded one
	Independent mark awarded two
	Benefit of the doubt
	Communication mark
	Incorrect point
	Follow through
Highlighter	Highlight a key point in the working
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Annotation	Meaning
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	Correct point
XP	Not from wrong 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

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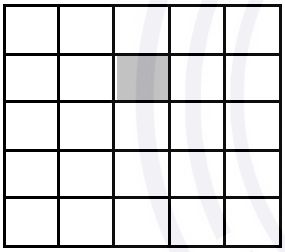
B Mark for a correct result or statement independent of Method marks.

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

Question	Answer	Marks	Partial Marks
1	20 000	**1**	
2(a)	7	**1**	
2(b)	$\frac{7}{100}$	**1**	
2(c)	7×10^{-2}	**1**	
3	1 2 3 6 9 18	**2**	**B1** for 4 correct and no extras or for 6 correct and one incorrect
4(a)	1000	**1**	
4(b)	3	**1**	
4(c)	1	**1**	
5(a)	2 correct lines of symmetry drawn	**2**	**B1** for one line correct and no extras or for 2 lines correct and one extra
5(b)	1 square correctly shaded 	**1**	
6	4	**2**	**M1** for $\frac{1}{0.25}$ oe
7	32	**2**	**B1** for 18 or 14
8	$\frac{3}{10}$ $\frac{1}{3}$ 34% 3 π	**2**	**B1** for 4 in the correct order or **M1** for decimal equivalents to compare numbers 0.34, 3.1..,0.33, [3], 0.3
9	2045	**1**	
10(a)	20	**1**	
10(b)	10 squares shaded	**1**	
11(a)	3.978	**1**	
11(b)	19.5	**1**	

Question	Answer	Marks	Partial Marks
12(a)	$(29+21)\times(29-21)$ $=50\times8$	**M1**	
	400	**A1**	
12(b)	12000	**2**	**M1** for (17^2-13^2)[×100] oe
13	8000	**1**	
14(a)	5 9	**2**	**B1** for each
14(b)	$\sqrt{3^2+4^2}$ [=5]	**2**	**M1** for 3^2+4^2
14(c)	correct net drawn	**3**	**B2** for 3 correct extra faces drawn in correct places or **B1** for 1 correct extra face drawn in correct place
15(a)	equilateral	**1**	
15(b)	120	**2**	**B1** for *DBC*=60
	Angles in an equilateral triangle are equal	**1**	
	Angles on a straight line add to 180	**1**	
16(a)	positive	**1**	
16(b)	the higher the temperature the higher the number of people oe	**1**	
17(a)	$[y=]\frac{1}{2}x+3$ final answer	**2**	**B1** for $\frac{1}{2}x+c$ or **B1** for $mx+3$ where $m\neq0$
17(b)	$(-6,0)$	**2**	**B1** for (−6, *j*) or (*k*, 0) or **M1** for $0=their\ \frac{1}{2}x+3$ or better
18(a)	−2 −4 −12 12 4 2	**3**	**B2** for 4 correct or **B1** for 1 correct
18(b)	Correct curve	**4**	**B3FT** for 9 points correctly plotted or **B2FT** for 7 points correctly plotted or **B1FT** for 5 points correctly plotted
18(c)	$y=-9$ correctly drawn, ruled	**1**	
18(d)	−1.4 to −1.2	**1**	FT *their* curve and $y=-9$

Question	Answer	Marks	Partial Marks
19(a)	9 11 13 15 final answer	**2**	**B1** for 3 correct and no errors or for 4 correct and one extra
19(b)	Pip needed to use two $\leqslant$ signs oe	**1**	
20	634.5 635.5	**2**	**B1** for each If 0 scored **SC1** for both correct but answers reversed
21(a)	50	**2**	**M1** for $\frac{1}{3}\times 5^2\times 6$ or better
21(b)	$p=\frac{3X}{w^2}$ or $p=3Xw^{-2}$ final answer	**2**	**M1** for $3X=w^2p$ or $\frac{X}{w^2}=\frac{1}{3}p$ or $Xw^{-2}=\frac{1}{3}p$
22	$\frac{2}{3}$ cao	**3**	**B2** for final answer $\frac{10}{15}$ or equivalent fraction OR **B1** for $\frac{22}{15}$ or $\frac{7}{15}+\frac{1}{5}$ **M1** for $\frac{3\times 4}{3\times 5}$oe or $\frac{3\times 1}{3\times 5}$ oe
23(a)	$\frac{9}{10}$ $\frac{1}{10}$ $\frac{9}{10}$ $\frac{1}{10}$ $\frac{9}{10}$	**2**	**B1** for $\frac{1}{10}$ and $\frac{1}{10}$ in correct places in 2nd battery or $\frac{9}{10}$ correctly placed for the first battery
23(b)	$\frac{1}{100}$ oe	**2**	**M1** for $\frac{1}{10}\times their\frac{1}{10}$
23(c)	300	**1**	
24	$\frac{7\pi}{2}$ or 3.5π	**3**	**M2** for $2\pi\times 7=4x$ oe or **M1** for $2\pi\times 7$ or 14π or $4x$
25	$\frac{10}{5}\times 7\left[=14\right]$ oe	**1**	

Question	Answer	Marks	Partial Marks
26	$[t =]0.5$ $[w =]-3$	**4**	**M1** for correctly equating one set of coefficients **M1** for correct method to eliminate one variable OR **M1** for making *t* or *w* the subject of one equation **M1** for substitution of *t* or *w* from *their* rearranged equation **A1** for $t=0.5$ **A1** for $w=-3$ If A0 scored **SC1** for 2 values satisfying one of the original equations