OXFORD

INTERNATIONAL
AQA EXAMINATIONS

INTERNATIONAL GCSE
MATHEMATICS CORE
9260/1C

Paper 1C

Mark scheme

November 2022

Version: 1.0 Final



Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from oxfordaqaexams.org.uk

Copyright information

OxfordAQA retains the copyright on all its publications. However, registered schools/colleges for OxfordAQA are permitted to copy material from this booklet for their own internal use, with the following important exception: OxfordAQA cannot give permission to schools/colleges to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Copyright © 2022 Oxford International AQA Examinations and its licensors. All rights reserved.

Key to mark types and abbreviations

M	Method marks are awarded for a correct method which could lead to a correct answer.
A	Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
B	Marks awarded independent of method.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special case. Marks awarded for a common misinterpretation which has some mathematical worth.
M dep	A method mark dependent on a previous method mark being awarded.
B dep	A mark that can only be awarded if a previous independent mark has been awarded.
oe	Or equivalent. Accept answers that are equivalent. eg accept 0.5 as well as $\frac{1}{2}$
[a, b]	Accept values between a and b inclusive.
[a, b)	Accept values $a \leqslant$ value $< b$
3.14 …	Accept answers which begin 3.14 eg 3.14, 3.142, 3.1416
Use of brackets	It is not necessary to see the bracketed work to award the marks.

Q	Answer	Mark	Comments
1	0.73	B1	

Q	Answer	Mark	Comments
2	mode	B1	

Q	Answer	Mark	Comments
3	–0.5	B1	

Q	Answer	Mark	Comments
4	D	B1	

Q	Answer	Mark	Comments
5(a)	12	B1	

Q	Answer	Mark	Comments
5(b)	1	B1	
	Additional Guidance		
	$\frac{5}{5} = 1$		B1
	Only $\frac{5}{5}$		B0

Q	Answer	Mark	Comments
6(a)	13:00	B1	accept 1 pm
	Additional Guidance		
	Accept eg 13 00 or 13.00 etc		
	1:00		B0

Q	Answer	Mark	Comments
6(b)	2 hours 20 minutes	B1	

Q	Answer	Mark	Comments
7	26 ÷ 4 or 6.5(0)	M1	oe
	3 × their 6.5(0) or 19.5(0) or 7 × their 6.5(0)	M1dep	oe M2 $26 \times \frac{3}{4}$ oe or $26 \times \frac{7}{4}$ oe
	45.5(0)	A1	

Q	Answer	Mark	Comments
8(a)	[96, 100]	B1	
	Additional Guidance		
	May be on diagram if answer line blank		

Q	Answer	Mark	Comments
8(b)	[12.2, 12.6] cm or [12.2, 12.6] centimetres or [122, 126] mm or [122, 126] millimetres	B2	B1 [12.2, 12.6] or [122, 126]
	Additional Guidance		
	Ignore subsequent rounding once [12.2, 12.6] or [122, 126] seen		
	May be on diagram if answer line blank		

Q	Answer	Mark	Comments
9	$5x + 4$ or $4 + 5x$	B1	
	Additional Guidance		
	Ignore any attempt to solve $5x + 4 = 0$		

Q	Answer	Mark	Comments
10(a)	57	B2	B1 208 or 151 chosen

Q	Answer	Mark	Comments
10(b)	7 (less than 160 cm) and 8 (160 cm to 180 cm) and 5 (more than 180 cm)	B1	correct numbers for each category seen implied by 42 and 60 and 50
	their 7 × 6 (+) their 8 × 7.5(0) (+) their 5 × 10 or 42 (+) 60 (+) 50	M1	their 7, their 8 and their 5 must have two correct or total 20
	152	A1ft	ft B0M1
	Additional Guidance		
	$8 \times 6 + 7 \times 7.5(0) + 5 \times 10$ 150.5(0)		B0M1 A1ft
	$7 \times 6 + 7 \times 7.5(0) + 5 \times 10$ 144.5(0)		B0M1 A1ft

Q	Answer	Mark	Comments
11(a)	90	B1	

Q	Answer	Mark	Comments
11(b)	26	B1	
	83	B1ft	correct or ft $3 \times$ their $26 + 5$
	Additional Guidance		
	2nd term 83 3rd term 254		B0 B1ft
	2nd term 25 3rd term 83		B0 B1

Q	Answer	Mark	Comments
12(a)	4	B1	

Q	Answer	Mark	Comments
12(b)	7	B1	

Q	Answer	Mark	Comments
12(c)	8	B1	

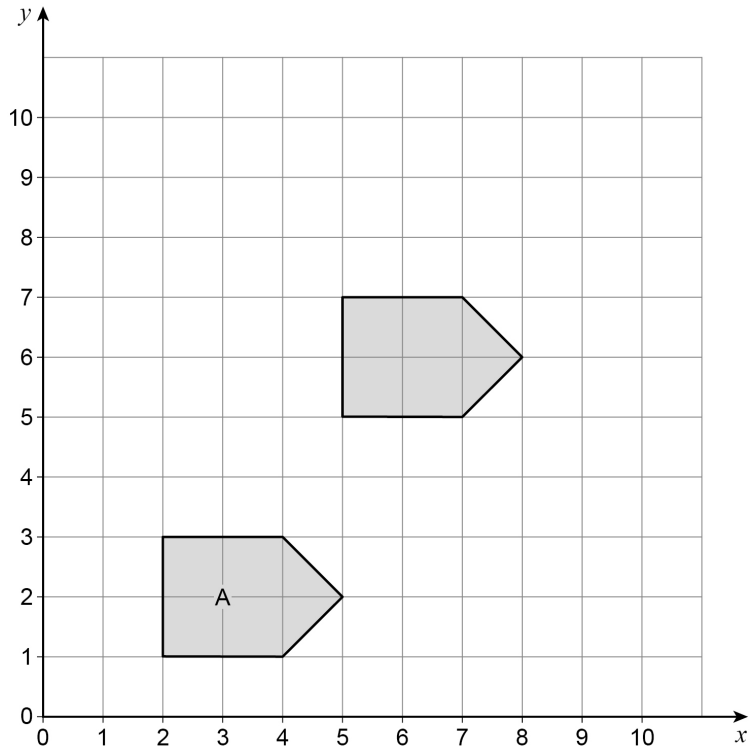
Q	Answer	Mark	Comments
13(a)	$\frac{510+294}{15}$ or $\frac{804}{15}$	M1	oe eg $\frac{510}{15}+\frac{294}{15}$ or $34+19.6(0)$
	53.6(0)	A1	SC1 529.6(0)
	Additional Guidance		
	Only $510+294\div15$ with brackets missing		M0A0

Q	Answer	Mark	Comments
13(b)	**Alternative method 1**		
	$57=\frac{408+x}{12}$ or 57×12 or 684	M1	oe any letter or symbol or word(s)
	$57\times12-408$	M1dep	oe
	276	A1	SC1 1092
	Alternative method 2		
	$408\div12$ or 34	M1	oe
	(57 – their 34) × 12 or 23×12	M1dep	oe
	276	A1	SC1 1092
	Additional Guidance		
	Up to M2 may be awarded for correct work with no answer, or incorrect answer, even if this is seen amongst multiple attempts		
	(408 + any value) ÷ 12 does not imply M1 unless set up as an equation for the first mark of Alt 1		
	Allow 15 as a misread for 12		

Q	Answer	Mark	Comments
14	$3(4y - 3)$	B1	
	Additional Guidance		
	Condone missing closing bracket ie $3(4y - 3$		B1
	Allow use of multiplication sign eg $3 \times (4y - 3)$		B1

Q	Answer	Mark	Comments
15(a)	9 : 4	B1	allow 2.25 : 1 or 1 : $0.\dot{4}$
	Additional Guidance		
	4 : 9		B0
	B1 answer followed by an attempt to simplify further		B0

Q	Answer	Mark	Comments
15(b)	$63 \div 7$ or 9	M1	oe implied by 45
	$(7 + 5) \times$ their 9 or $5 \times$ their $9 + 63$	M1dep	oe
	108	A1	
	Additional Guidance		
	108 seen with answer 63		M2A0

Q	Answer	Mark	Comments
16	Fully correct translation	B2	B1 one direction correct with correct orientation of shape SC1 translation of $\begin{pmatrix}4\\3\end{pmatrix}$
	Additional Guidance		
			B2

Q	Answer	Mark	Comments
17	(2, 6)	B1	

Q	Answer	Mark	Comments
18	56 + 56 or 2 × 56 or 112	M1	
	(56 + 56) ÷ 160 (× 100) or their 112 ÷ 160 (× 100) or 0.7 (× 100)	M1dep	oe
	70	A1	

Q	Answer	Mark	Comments
19(a)	$2 \times (3 + 8 + 13)$	M1	oe
	48	A1	

Q	Answer	Mark	Comments
19(b)	$\frac{1}{2} \times 12 \times (3 + 8)$ or 66 or $\frac{1}{2} \times 12 \times (3 \times 2 + 8 \times 2)$	M1	oe
	132	A1	

Q	Answer	Mark	Comments
20(a)	False False True	B2	B1 one or two correct
	Additional Guidance		
	Only a cross in a row – mark the cross		
	A tick and a cross in a row – mark the tick		
	More than one tick in a row – that row is incorrect		

Q	Answer	Mark	Comments
20(b)	Single straight line from (1, 0) to at least (2, 2)	B2	B1 single straight line with gradient 2 eg from (0, 1) to (1, 3)
	Additional Guidance		
	For B1 the line must be at least 1 square across and 2 squares up		
	Two straight lines, one with gradient 2		B0
	Mark intention		

Q	Answer	Mark	Comments	
21	**Alternative method 1**			
	$\frac{3}{8} \times 112$ or 42	M1	oe	
	112 – their 42 or 70 or (112 – their 42) ÷ 2 or 35	M1dep	oe	
	36	A1	SC2 34	
	Alternative method 2			
	$1 - \frac{3}{8}$ or $\frac{5}{8}$	M1	oe	
	their $\frac{5}{8} \times 112$ or 70 or their $\frac{5}{8} \times 112 \div 2$ or 35	M1dep	oe	
	36	A1	SC2 34	
	Additional Guidance			
	Up to M2 may be awarded for correct work with no answer, or incorrect answer, even if this is seen amongst multiple attempts			
	Answer 35			M1M1A0

Q	Answer	Mark	Comments
22	**Alternative method 1**		
	$12^2 \times \pi$ or 144π or [452, 452.45] or $12^2 \times \pi \times \frac{3}{4}$ or 108π or [339, 339.34]	M1	oe
	$(12 \times 2)^2 - 12^2 \times \pi \times \frac{3}{4}$ or $12^2 + [(12 \times 2)^2 - 12^2 \times \pi] \times \frac{3}{4}$	M1dep	oe
	$576 - 108\pi$ or [236.66, 237]	A1	
	Alternative method 2		
	$12^2 \times \pi$ or 144π or [452, 452.45] or $12^2 \times \pi \times \frac{1}{4}$ or 36π or [113, 113.113]	M1	oe
	$12^2 + (12^2 - 12^2 \times \pi \times \frac{1}{4}) \times 3$	M1dep	oe
	$576 - 108\pi$ or [236.66, 237]	A1	
	Additional Guidance		
	Up to M2 may be awarded for correct work with no answer, or incorrect answer, even if this is seen amongst multiple attempts		
	Ignore incorrect conversion to a decimal once correct answer seen		

Q	Answer	Mark	Comments
23(a)	At least 3 points correctly plotted	M1	$\pm\frac{1}{2}$ square
	All 4 points correctly plotted and joined	A1	$\pm\frac{1}{2}$ square
	Additional Guidance		
	$\pm\frac{1}{2}$ square means half a small square horizontally and vertically		
	If a point is within tolerance the line must be within $\pm\frac{1}{2}$ square of their point		
	Mark intention for joining point to point		

Q	Answer	Mark	Comments
23(b)	[114, 124]	B1	
	Additional Guidance		
	Answer in range with or without working, with no graph or incorrect graph		B1
	If a range is given on answer line accept if both values are in range eg 118 – 120		B1

Q	Answer	Mark	Comments
24	$y = x^2 - 3$	B1	

Q	Answer	Mark	Comments
25(a)	68 600 000	B1	allow 68.6 million
	Additional Guidance		
	Allow any commas or spaces eg 6,86000,00		B1
	Using decimal points		B0

Q	Answer	Mark	Comments
25(b)	$(1.56 \times 10^8) \div (7.8(0) \times 10^7)$ or 2 or $(7.8(0) \times 10^7) \div (1.56 \times 10^8)$ or 0.5	M1	oe eg $15.6 \div 7.8$ implied by ratio equivalent to 1 : 2 up to 78 : 156
	1 : 2	A1	SC1 2 : 1 or 1 : 0.5 or 1 : $\frac{1}{2}$
	Additional Guidance		
	Must be using Atlantic and Pacific		

Q	Answer	Mark	Comments
26(a)	Valid description	B1	eg as the time increases the mark increases
	Additional Guidance		
	As one increases the other increases		B1
	The more you revise the better mark you get		B1
	The less time spent, the lower the mark		B1
	More revision = higher marks so they are (directly) proportional		B1
	Positive correlation because as time goes up the mark goes up		B1
	The mark is (directly) proportional to the time spent		B0
	Positive correlation		B0

Q	Answer	Mark	Comments
26(b)	Straight line of best fit through (2, [16, 26]) and (7, [49, 59])	B1	accept if clear intention to draw a straight line ignore anything either side of the gates
	Correct reading $\pm\frac{1}{2}$ square for their straight line of best fit	B1ft	ft straight line with positive gradient accept if clear intention to draw a straight line
	Additional Guidance		
	Ignore working lines on the graph		
	Two lines of best fit, mark the line that leads to their answer		
	$\pm\frac{1}{2}$ square means half a small square horizontally and vertically		
	Line of best fit seen, but not used		B1B0
	Short straight line with positive gradient that covers at least 3 large squares and correct reading $\pm\frac{1}{2}$ square for their line		B0B1ft
	No line drawn		B0B0

Q	Answer	Mark	Comments
27	**Alternative method 1 – Using the probability of the intersection**		
	$85 + 35 - 100$ or 20 or $x + 85 - x + 35 - x = 100$	M1	oe eg $0.85 + 0.35 - 1$ or 0.2 x may be any letter
	their 20% equated to 28 or $28 \div$ their 20 or 1.4 or 91 and 21 or 119 and 49	M1dep	oe implied by eg 28×5 or $28 \div$ their 0.2
	140	A1	
	Alternative method 2 – Forming an equation using the total number of visitors		
	$0.85y - 28 + 0.35y - 28 + 28 = y$	M1	oe y may be any letter
	$0.2y = 28$	M1dep	oe equation of the form $ay = b$
	140	A1	
	Additional Guidance		
	Up to M2 may be awarded for correct work with no answer, or incorrect answer, even if this is seen amongst multiple attempts		
	Percentages or numbers may be on the Venn Diagram		
	$28 = 20\%$		M1M1

Q	Answer	Mark	Comments
28	Never true Never true Sometimes true	B3	B1 for each
	Additional Guidance		
	Only a cross in a row – mark the cross		
	A tick and a cross in a row – mark the tick		
	More than one tick in a row scores B0 for that row		

Q	Answer	Mark	Comments
29	4	B1	

Q	Answer	Mark	Comments
30	$x^3 + 2x$	B1	

Q	Answer	Mark	Comments
31	2 × 3 or 6 or 5 × 3 or 15 or 2 × 5 or 10	M1	implied by 12 or 30 or 20 or 2 × 2 × 3 or 2 × 5 × 3 or 2 × 2 × 5
	2 × 3 or 6 and 5 × 3 or 15 and 2 × 5 or 10 or 31	M1dep	implied by 12 and 30 and 20 or 2 × 2 × 3 and 2 × 5 × 3 and 2 × 2 × 5
	62	A1	SC1 30
	Additional Guidance		
	2 × 3 only seen embedded in a product eg 2 × 3 × 5 × 3 × 2 × 5		M0

Q	Answer	Mark	Comments
32(a)	$4x - 20 > 32$ or $4x > 52$ or $x - 5 > 8$	M1	oe
	$x > 13$ or $13 < x$	A1	SC1 $x \geqslant 13$ or $13 \leqslant x$ or $x < 13$ or $13 > x$ or $x = 13$ or answer of 13
	Additional Guidance		
	$x > 13$ seen in working, Answer 13		M1A1
	Allow use of other symbols (eg $\geqslant$ or $=$ etc) if recovered to $x > 13$		M1A1
	$x = > 13$		M1A0
	Embedded answer $4(13 - 5) > 32$		M1A0
	Answer only $x \geqslant 14$		M0A0

Q	Answer	Mark	Comments
32(b)	$-12 \leqslant 3y \leqslant 3$	B1	