GCSE MATHEMATICS 8300/3H

Higher Tier Paper 3 Calculator

Mark scheme

November 2024

Version: 1.0 Final

24BG8300/3H/MS

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.

No student should be disadvantaged on the basis of their gender identity and/or how they refer to the gender identity of others in their exam responses.

A consistent use of 'they/them' as a singular and pronouns beyond 'she/her' or 'he/him' will be credited in exam responses in line with existing mark scheme criteria.

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

Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

If a student uses a method which is not explicitly covered by the mark scheme the same principles of marking should be applied. Credit should be given to any valid methods. Examiners should seek advice from their senior examiner if in any doubt.

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.

Examiners should consistently apply the following principles.

Diagrams

Diagrams that have working on them should be treated like normal responses. If a diagram has been written on but the correct response is within the answer space, the work within the answer space should be marked. Working on diagrams that contradicts work within the answer space is not to be considered as choice but as working, and is not, therefore, penalised.

Responses which appear to come from incorrect methods

Whenever there is doubt as to whether a student has used an incorrect method to obtain an answer, as a general principle, the benefit of doubt must be given to the student. In cases where there is no doubt that the answer has come from incorrect working then the student should be penalised.

Questions which ask students to show working

Instructions on marking will be given but usually marks are not awarded to students who show no working.

Questions which do not ask students to show working

As a general principle, a correct response is awarded full marks.

Misread or miscopy

Students often copy values from a question incorrectly. If the examiner thinks that the student has made a genuine misread, then only the accuracy marks (A or B marks), up to a maximum of 2 marks are penalised. The method marks can still be awarded.

Further work

Once the correct answer has been seen, further working may be ignored unless it goes on to contradict the correct answer.

Choice

When a choice of answers and/or methods is given, mark each attempt. If both methods are valid then M marks can be awarded but any incorrect answer or method would result in marks being lost.

Work not replaced

Erased or crossed out work that is still legible should be marked.

Work replaced

Erased or crossed out work that has been replaced is not awarded marks.

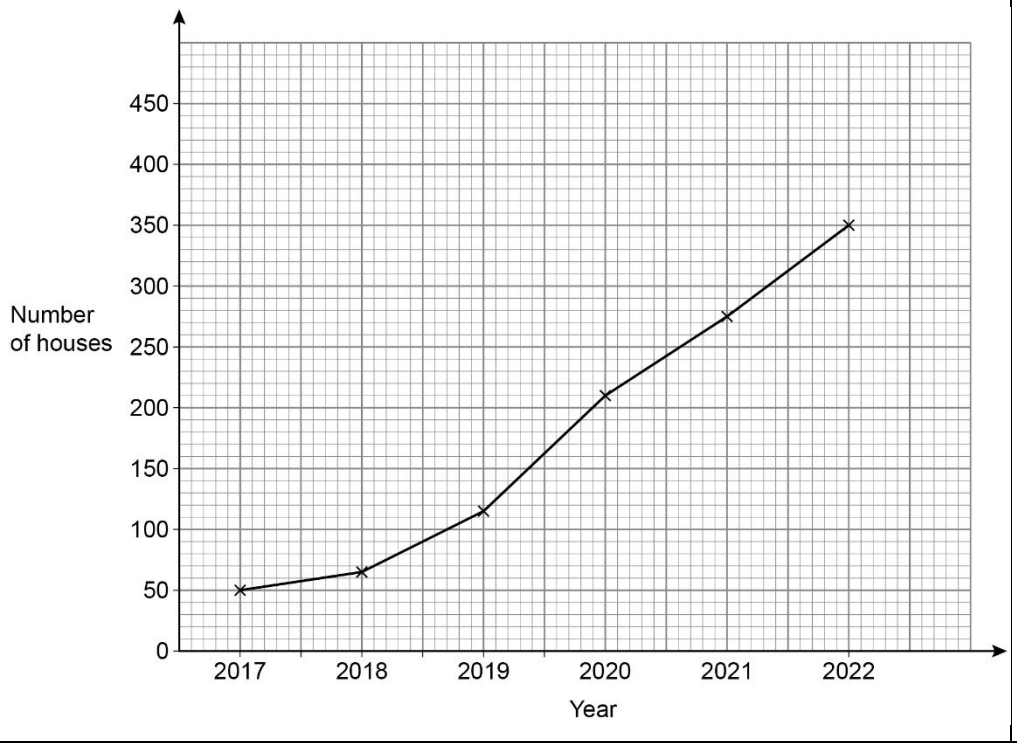
Premature approximation

Rounding off too early can lead to inaccuracy in the final answer. This should be penalised by 1 mark unless instructed otherwise.

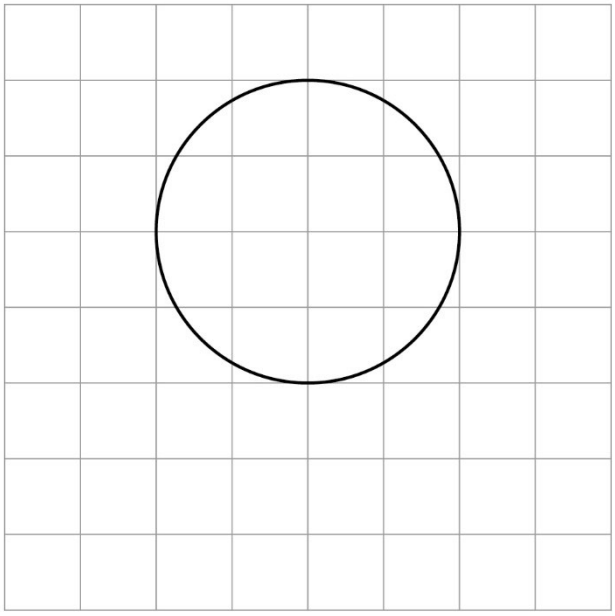
Continental notation

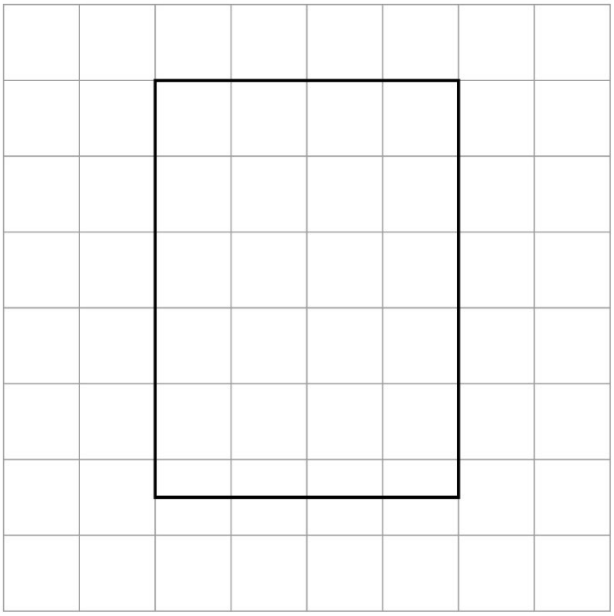
Accept a comma used instead of a decimal point (for example, in measurements or currency), provided that it is clear to the examiner that the student intended it to be a decimal point.

Q	Answer	Mark	Comments
1	0.3	B2	B1 $\frac{3}{10}$ or $\frac{1}{10/3}$ or $\left(\frac{10}{3}\right)^{-1}$ or $\frac{1}{3.33...}$ or –0.3
	Additional Guidance		
	$-\frac{3}{10}$		B0

Q	Answer	Mark	Comments
2(a)	Plots at least 2 points correctly	M1	$\pm\frac{1}{2}$ square
	Fully correct with all points joined by single straight lines	A1	$\pm\frac{1}{2}$ square
	Additional Guidance		
	Mark intention		
	Ignore other points plotted and any lines of best fit		
	Points may be implied by the position of the line		
			M1A1

Q	Answer	Mark	Comments
2(b)	[360, 500]	B1	
	Additional Guidance		
	An interval given entirely in range eg 425 – 440		B1
	An interval given not entirely in range eg 340 – 430		B0

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="6">3(a)</td><td>Circle with diameter 4 cm</td><td>B2</td><td>diameter ± 5 mm
B1 for any circle
or 40 ÷ 10 or 4
or (radius =) 2</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="2"> 
Can be anywhere on the grid</td><td>B2</td></tr>
<tr><td colspan="2">Mark intention</td><td></td></tr>
<tr><td colspan="2">Check stem and part (b) for evidence of 4 or 2</td><td></td></tr>
<tr><td colspan="2">4 or 2 cannot be implied from a diagram for B1</td><td></td></tr>
</table>

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="10">3(b)</td><td>Rectangle with horizontal sides 4 cm and vertical sides 5.5 cm</td><td>B2</td><td>± 2 mm
B1 for any rectangle
or
40 ÷ 10 or 4 and 55 ÷ 10 or 5.5
SC2 for correct answers in (a) and (b) reversed (award 0 in (a) and 2 in (b))</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="2"> 
Can be anywhere on the grid</td><td>B2</td></tr>
<tr><td colspan="2">Mark intention</td><td></td></tr>
<tr><td colspan="2">Do not accept curved corners on any rectangle</td><td></td></tr>
<tr><td colspan="2">Check stem and part (a) for evidence of 4 and 5.5</td><td></td></tr>
<tr><td colspan="2">4 and 5.5 cannot be implied from a diagram for B1</td><td></td></tr>
</table>

Q	Answer	Mark	Comments	
4	**Alternative method 1: Compares lower bound with cost of 6 drinks**			
	12 – 0.5(0) or 11.5(0)	M1	oe eg 1200 – 50 allow mixed units eg 12 – 50	
	1.89 × 6 or 11.34	M1	oe eg 189 × 6	
	11.5(0) and 11.34	A1	oe eg 1150 and 1134 units must be consistent	
	Alternative method 2: Compares rounded cost of drinks with 12			
	1.89 × 6 or 11.34	M1	oe eg 189 × 6	
	11.34 rounds to 11	M1dep	oe eg 11.34 → 11	
	11.34 rounds to 11 and 11 is less than 12	A1	oe units must be consistent	
	Alternative method 3: Uses lower bound to work out cost or number of drinks			
	12 – 0.5(0) or 11.5(0)	M1	oe eg 1200 – 50 allow mixed units eg 12 – 50	
	their 11.5(0) ÷ 6 or [1.91, 1.92] or their 11.5(0) ÷ 1.89 or [6.08, 6.1]	M1	oe eg 1150 ÷ 6 or [191, 192] their 11.5(0) must be [11, 11.99]	
	11.5(0) ÷ 6 and [1.91, 1.92] or 11.5(0) ÷ 1.89 and [6.08, 6.1]	A1	oe eg 1150 ÷ 6 and [191, 192] units must be consistent	
	Additional Guidance			
	Ignore any use of upper bound			
	Condone inconsistent notation eg 11.50 and £11.34p			M1M1A1
	11.34 rounds to 11 not 12 so she will have enough			M1M1A1
	11.34 rounds to 11 so she will have enough			M1M1A0

Q	Answer	Mark	Comments
5	$2m + 4$ or $2 \times m + 4$	B2	oe B1 $2m$ or $m2$ or $200m + 400$ or $km + 4$ with k an integer, $k \neq 0$ or 2
	Additional Guidance		
	Ignore any attempt to substitute a value for m after $2m$ seen for B1		
	Condone $m2 + 4$ (not testing simplification)		B2
	Accept use of another letter for m other than c eg1 $2x + 4$ eg2 $2c + 4$		 B2 B0
	Condone inclusion of £ sign for B1 eg1 £$2m + 4$ eg2 £$2m$		 B1 B1

Q	Answer	Mark	Comments
6	**Alternative method 1: Cost of six shirts**		
	19(.00) × 3 or 57(.00)	M1	oe shop A
	12.4(0) × 0.25 or 3.1(0) or 1 – 0.25 or 0.75	M1	oe shop B implied by 9.3(0)
	(12.4(0) – their 3.1(0)) × 6 or 12.4(0) × their 0.75 × 6 or 9.3(0) × 6 or 55.8(0)	M1dep	oe shop B dep on 2nd M
	37.4(0) × 1.5 or 56.1(0)	M1	oe shop C
	B and 57(.00) and 55.8(0) and 56.1(0)	A1	
	Alternative method 2: Cost per shirt		
	19(.00) ÷ 2 or 9.5(0)	M1	oe shop A
	12.4(0) × 0.25 or 3.1(0) or 1 – 0.25 or 0.75	M1	oe shop B implied by 9.3(0)
	12.4(0) – their 3.1(0) or 12.4(0) × their 0.75 or 9.3(0)	M1dep	oe shop B dep on 2nd M
	37.4(0) × 1.5 ÷ 6 or 9.35	M1	oe shop C
	B and 9.5(0) and 9.3(0) and 9.35	A1	

Additional Guidance is on the next page

<table>
<tr><td rowspan="3">6
cont</td><td colspan="2">Additional Guidance</td></tr>
<tr><td>Use the scheme which favours the student</td><td></td></tr>
<tr><td>Comparable costs for different quantities of shirts
<table>
<tr><th>Shop</th><th>Cost of 1</th><th>Cost of 2</th><th>Cost of 3</th><th>Cost of 6</th></tr>
<tr><td>A</td><td>9.5(0)</td><td>19(.00)</td><td>28.5(0)</td><td>57(.00)</td></tr>
<tr><td>B</td><td>9.3(0)</td><td>18.6(0)</td><td>27.9(0)</td><td>55.8(0)</td></tr>
<tr><td>C</td><td>9.35</td><td>18.7(0)</td><td>28.05</td><td>56.1(0)</td></tr>
</table></td><td></td></tr>
</table>

Q	Answer	Mark	Comments
7(a)	912 ÷ 15.2 or 60	M1	oe implied by 62
	912 ÷ (their 60 + 2) or 912 ÷ 62 or [14.7, 14.71]	M1dep	oe
	[14.7, 14.71] : 1 or 15 : 1 with M2 awarded	A1	oe eg $\frac{456}{31}$: 1
	Additional Guidance		
	M1 may be awarded for correct work, with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	Do not allow misreads for 15.2		

Q	Answer	Mark	Comments
7(b)	Valid explanation	B1	eg she needs to round up
	Additional Guidance		
	She rounded down		B1
	Needs 8 (teachers)		B1
	Need (one) more		B1
	Only 70 students could go		B1
	2 students do not have a teacher		B1
	There are students without a teacher		B1
	Have groups of 8 with 9 teachers		B0
	8		B0
	Cannot have 0.2 of a teacher		B0

Q	Answer	Mark	Comments
8	(–2, –2) and (–2, 4) and (4, 4)	B4	B3 for 2 correct coordinates or the 3 correct lines drawn B2 for 1 correct coordinate or 2 correct lines drawn B1 for 1 correct line drawn
	Additional Guidance		
	Mark coordinates first		
	Ignore incorrect lines		

Q	Answer	Mark	Comments
9	Two numbers which are 1 more than a multiple of 12 eg 13, 25, 37, 49, 61 …	B2	B1 at least one number which is 1 more than a multiple of 12 with at most one other number or lists (3, 5, 7, 9 …and) 4, 7, 10, 13 … and 5, 9, 13, 17 …
	Additional Guidance		
	If the answer line is blank: award B2 if two or more correct numbers and no incorrect numbers are clearly chosen award B1 if one or more correct number(s) and one incorrect number are clearly chosen		

Q	Answer	Mark	Comments
10	At least one of 20, 15 and 12	M1	may be seen in table or implied by correct point or curve passing through the correct point
	Points plotted at (1, 60), (2, 30), (3, their 20), (4, their 15), (5, their 12) and (6, 10)	M1	$\pm\frac{1}{2}$ square implied by curve through these six points
	Single smooth curve through the correct points	A1	
	Additional Guidance		
	Ignore curve before $x = 1$ and after $x = 6$ if it is decreasing and does not touch either axis		
	Curve touches at least one axis		A0

Q	Answer	Mark	Comments
11	$4t(3 + t^2)$	B2	B1 $4(3t + t^3)$ or $2t(6 + 2t^2)$ or $2(6t + 2t^3)$ or $t(12 + 4t^2)$
	Additional Guidance		
	Ignore any "solutions" seen		
	Ignore any attempts to complete the square with the final answer		
	Condone $4t \times (3 + t^2)$		B2
	Condone $4t(3 + 1t^2)$		B2
	Condone $4 \times (3t + t^3)$		B1
	$(4t + 0)(3 + t^2)$		B1
	Do not ignore further incorrect algebraic simplification for B2		

Q	Answer	Mark	Comments	
12	Multiplication by 1.01 or multiplication by 0.988	M1	oe eg multiplication by 0.01 followed by addition implied by 67 872 000 or multiplication by 0.012 followed by subtraction implied by 66 393 600	
	$67\,200\,000 \times 1.01^6$ or 71 334 154(.1…) or $67\,200\,000 \times 0.988^2$ or 65 596 876(.8) or 65 596 877 or $67\,200\,000 \times 1.01^6 \times 0.988^2$	M1dep	oe	
	69 632 406(.5….) or 69 632 407	A1		
	69 600 000 or 69.6 million or 6.96×10^7 or 69.6×10^6	B1ft	ft any answer with >3sf correctly rounded to 3sf	
	Additional Guidance			
	$67\,200\,000 \times 1.01 \times 6 \times 0.988 \times 2 = 804\,690\,432$ Answer 805 000 000			M1M0A0 B1ft

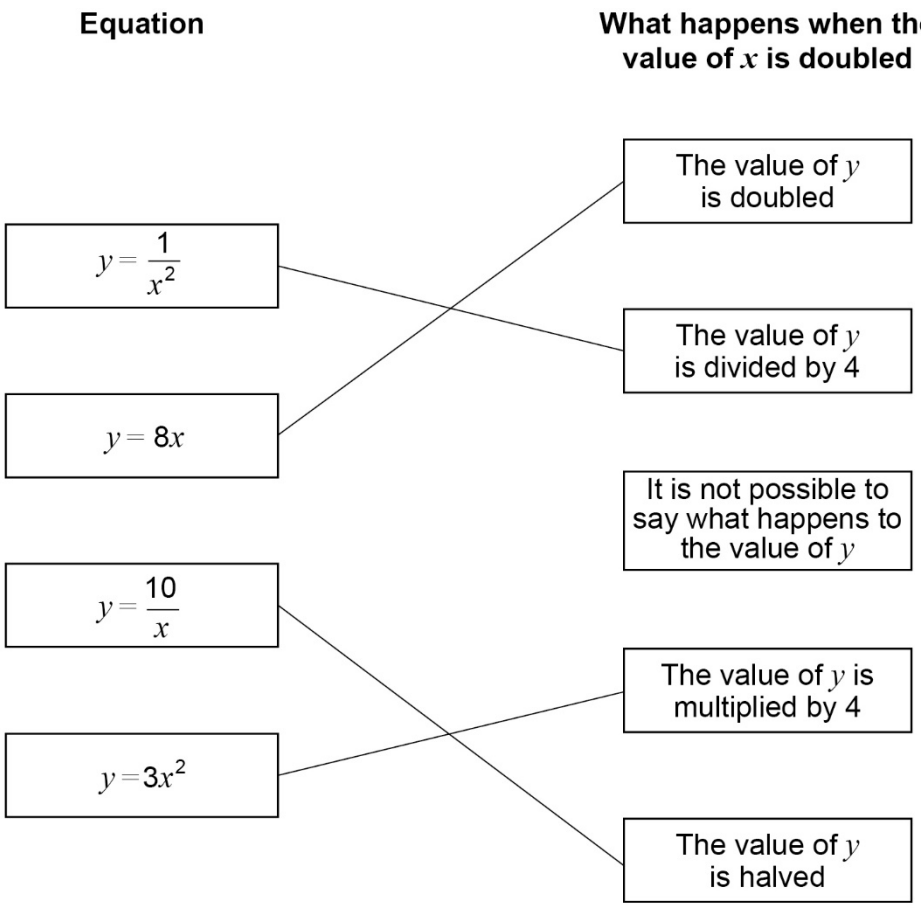
Q	Answer	Mark	Comments
13	**Alternative method 1**		
	4×3 (÷ 2) or 12 (÷ 2) or 6 or correct list of all possible combinations or all possible qualifying combinations (5,10) (5,20) 5,50 (10,5) 10,20 10,50 (20,5) 20,10 20,50 50,5 50,10 50,20 or (5,10) (5,20) 5,50 10,20 10,50 20,50	M1	number of possible combinations may be implied by the correct total for each combination
	$\frac{4}{6}$ or $\frac{8}{12}$	A1	oe fraction, decimal or percentage with M1 awarded
	Alternative method 2		
	$\frac{1}{4} \times \frac{1}{3}$ or $\frac{1}{12}$ and $\frac{1}{4} \times \frac{2}{3}$ (× 2) or $\frac{2}{12}$ (× 2) or $\frac{4}{12}$ and $\frac{1}{4}$ (× 1) or $\frac{3}{12}$	M1	picking £5 first picking £10 first or £20 first picking £50 first oe probabilities
	$\frac{4}{6}$ or $\frac{8}{12}$	A1	oe fraction, decimal or percentage with M1 awarded
	Additional Guidance		
	Decimals or percentages should be rounded or truncated to 2dp or better		
	In Alt 1, combinations may be seen in a grid, table or other diagram		
	In Alt 1, do not accept repeat combinations or incorrect combinations for M1		

Q	Answer	Mark	Comments
14(a)	0.85 (Pass) and 0.15 (Fail) for Section A	B1	oe fractions, decimals or percentages
	0.22 (Fail) on top branch for Section B and 0.64 (Pass) and 0.36 (Fail) on bottom branches for Section B	B1	oe fractions, decimals or percentages

Q	Answer	Mark	Comments
14(b)	**Alternative method 1**		
	their 0.85 × their 0.78 or 0.663 or their 0.85 × their 0.22 or 0.187 or their 0.15 × their 0.64 or 0.096 or their 0.15 × their 0.36 or 0.054	M1	oe ft their tree diagram provided all probabilities are > 0 and < 1
	1 – their 0.663 or their 0.187 + their 0.096 + their 0.054 or their 0.187 + 0.15 or 0.337	M1dep	oe their 0.663, their 0.187, their 0.096 and their 0.054 must be from correct methods
	their 0.337 × 0.4 or 0.1348 or their 0.337 × 5000 or 1685	M1dep	oe fraction, decimal or percentage dep on M2
	674	A1ft	ft their tree diagram provided all probabilities are > 0 and < 1

Mark scheme continues on the next page

Q	Answer	Mark	Comments
14(b) cont	**Alternative method 2**		
	their 0.85 × their 0.78 × 5000 or 3315 or their 0.85 × their 0.22 × 5000 or 935 or their 0.15 × their 0.64 × 5000 or 480 or their 0.15 × their 0.36 × 5000 or 270 or their 0.15 × 5000 or 750	M2	M1 their 0.85 × 5000 or 4250 implied by 374 implied by 192 implied by 108 ft their tree diagram provided all probabilities are > 0 and < 1
	5000 – their 3315 or their 935 + their 480 + their 270 or their 935 + their 750 or 1685 or 374 and 192 and 108	M1dep	dep on M2
	674	A1ft	ft their tree diagram provided all probabilities are > 0 and < 1
	Additional Guidance		
	Working for part (b) may be seen in part (a)		

Q	Answer	Mark	Comments
15	All 3 correct matches	B3	B1 for each correct match
	Additional Guidance		
			B3
	Equation matched to more than one statement is choice for that equation		

Q	Answer	Mark	Comments
16	$y^2 = \frac{x}{2} + 1$	M1	
	$y^2 - 1 = \frac{x}{2}$ or $1 - y^2 = -\frac{x}{2}$ or $2y^2 = x + 2$ or $2y^2 - 2$ or $2(y^2 - 1)$	M1dep	
	$x = 2y^2 - 2$ or $x = 2(y^2 - 1)$	A1	
	Additional Guidance		
	$x = 2y^2 - 2$ in working with $2y^2 - 2$ on answer line		M1M1A1

Q	Answer	Mark	Comments
17	**Alternative method 1**		
	$d \propto t^2$ or $d = kt^2$ or $20 = k \times 2^2$ or $k = 20 \div 4$	M1	oe equation
	$d = 5t^2$ or $k = 5$	M1dep	oe equation
	$(t =)\sqrt{300 \div \text{their } 5}$ or $(t =)\sqrt{60}$	M1dep	oe eg $(t =)2\sqrt{15}$ dep on M2
	[7.7, 7.75]	A1	
	Alternative method 2		
	$d \propto t^2$ or $kd = t^2$ or $k \times 20 = 2^2$ or $k = 4 \div 20$	M1	oe equation
	$0.2d = t^2$ or $k = 0.2$	M1dep	oe equation
	$(t =)\sqrt{\text{their } 0.2 \times 300}$ or $(t =)\sqrt{60}$	M1dep	oe eg $(t =)2\sqrt{15}$ dep on M2
	[7.7, 7.75]	A1	
	Additional Guidance		
	Allow consistent use of other letters		
	$d \propto kt^2$ is M0 unless recovered		

Q	Answer	Mark	Comments
18	6 ÷ 5 or 1.2 or 15 ÷ 10 or 1.5 or 9 ÷ 10 or 0.9 or 10 ÷ 25 or 0.4	M1	one correct frequency density implied by a correct bar
	At least 3 of 1.2 and 1.5 and 0.9 and 0.4	M1dep	
	At least 3 correct bars with correct linear scale on the vertical axis	M1dep	dep on M2
	Fully correct histogram with linear scale on the vertical axis	A1	

Q	Answer	Mark	Comments
19	$\frac{x}{\sin 35} = \frac{54}{\sin 117}$	M1	oe equation accept [0.57, 0.574] for sin 35 accept [0.89, 0.8911] for sin 117
	$(x =)\frac{54\sin 35}{\sin 117}$	M1dep	oe accept [0.57, 0.574] for sin 35 accept [0.89, 0.8911] for sin 117
	[34.5, 34.83] and correct sine rule equation seen	A1	accept 35 with M2 awarded

Q	Answer	Mark	Comments
20	$(3x + 5)(x + 6)$	B2	B1 $(3x + a)(x + b)$ where $a + 3b = 23$ or $ab = 30$
	Additional Guidance		
	B1 may be awarded for correct work, with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	Condone missing final bracket for B2 or B1		
	Ignore any attempt to 'solve' eg $(3x + 5)(x + 6)$ in working lines with $-\frac{5}{3}$ and –6 on answer line		B2
	Allow use of fractions or decimals for B1 eg $(3x + 2.5)(x + 12)$		B1

Q	Answer	Mark	Comments
21	$\frac{9}{24}$ or $\frac{5}{24}$	M1	oe eg 0.375 or 0.208(3…) may be seen on a diagram or embedded in a calculation
	$\frac{9}{24} \times \frac{5}{23}$ (× 2) or $\frac{5}{24} \times \frac{9}{23}$ (× 2) or $\frac{45}{552}$ (× 2)	M1dep	oe eg $\frac{15}{184}$ (× 2) or 0.08(15…) (× 2)
	$\frac{90}{552}$ or $\frac{15}{92}$ or 0.163(0…)	A1	oe fraction, decimal or percentage accept 0.16 with M2 awarded
	Additional Guidance		
	Ignore incorrect conversion if correct answer seen		
	A correct embedded value seen eg $\frac{11}{25} \times \frac{9}{24} \times \frac{5}{23}$ or $\frac{11}{25} \times \frac{5}{24} \times \frac{9}{23}$		M1M0A0
	$\frac{9}{24} \times \frac{5}{23} \times \frac{5}{24} \times \frac{9}{23}$		M1M0A0

Q	Answer	Mark	Comments
22	4320 ÷ 3.6(0) or 1200 or 17.3 × 3.6(0) or 62.28	M1	oe cost per cubic centimetre
	their 1200 ÷ 17.3 or 4320 ÷ their 62.28 or 69.3(6….) or 69.4	M1dep	mass ÷ density total cost ÷ cost per cubic centimetre
	(r^3 =) their 69.3 × $\frac{3}{4}$ ÷ π or [16.5, 16.6]	M1dep	oe dep on M2
	[2.5, 2.55]	A1	

Q	Answer	Mark	Comments
23	Constructs any equation using coordinates	M1	eg $3 = a \times b^0$ or $3 = a \times 1$ $6 = a \times b^1$ $12 = a \times b^2$ $24 = a \times b^3$ $48 = a \times b^4$
	$a = 3$ and $b = 2$	A2	A1 $a = 3$
	Additional Guidance		
	M1 may be awarded for correct work, with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	$a = 3$ with no working		M1A1
	$b = 2$ with no working and $a \neq 3$		M0A0

Q	Answer	Mark	Comments
24	**Alternative method 1**		
	$x^2 + 4x - 4 = 3x - 2$	M1	
	$x^2 + x - 2\ (= 0)$	A1	
	$(x + 2)(x - 1)\ (= 0)$ or $(x =) \dfrac{-1 \pm \sqrt{1^2 - 4 \times 1 \times -2}}{2 \times 1}$ or $(x + 0.5)^2 - 2.25\ (= 0)$	M1	oe correct for their 3-term quadratic in the form $ax^2 + bx + c\ (= 0)$ if the quadratic formula is used with + and – separately, both must be seen correctly for this mark
	$(x =) -2$ and $(x =) 1$	A1	
	$(-2, -8)$ and $(1, 1)$	A1	SC1 for 1 correct coordinate
	Alternative method 2		
	$y = \left(\dfrac{y + 2}{3}\right)^2 + 4\left(\dfrac{y + 2}{3}\right) - 4$	M1	
	$y^2 + 7y - 8\ (= 0)$	A1	
	$(y + 8)(y - 1)\ (= 0)$ or $(y =) \dfrac{-7 \pm \sqrt{7^2 - 4 \times 1 \times -8}}{2 \times 1}$ or $(y + 3.5)^2 - 20.25\ (= 0)$	M1	oe correct for their 3-term quadratic in the form $ay^2 + by + c\ (= 0)$ if the quadratic formula is used with + and – separately, both must be seen correctly for this mark
	$(y =) -8$ and $(y =) 1$	A1	
	$(-2, -8)$ and $(1, 1)$	A1	SC1 for 1 correct coordinate
	Additional Guidance		
	Trial and improvement may be awarded SC1 for one correct coordinate or full marks if both coordinates are correct		