Pearson Edexcel

Mark Scheme (Results)

Summer 2024

Pearson Edexcel GCSE
In Mathematics (1MA1)
Higher (Non-Calculator) Paper 1H

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General marking guidance

These notes offer general guidance, but the specific notes for examiners appertaining to individual questions take precedence.

1 All candidates must receive the same treatment. Examiners must mark the last candidate in exactly the same way as they mark the first. Where some judgement is required, mark schemes will provide the principles by which marks will be awarded; exemplification/indicative content will not be exhaustive. When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the response should be sent to review.

2 All the marks on the mark scheme are designed to be awarded; mark schemes should be applied positively. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme. If there is a wrong answer (or no answer) indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.

Questions where working is not required: In general, the correct answer should be given full marks.
Questions that specifically require working: In general, candidates who do not show working on this type of question will get no marks – full details will be given in the mark scheme for each individual question.

3 Crossed out work

This should be marked **unless** the candidate has replaced it with an alternative response.

4 Choice of method

If there is a choice of methods shown, mark the method that leads to the answer given on the answer line.
If no answer appears on the answer line, mark both methods **then award the lower number of marks.**

5 Incorrect method

If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks. Send the response to review for your Team Leader to check.

6 Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working as you can check the answer, but if ambiguous do not award.
Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

7 Ignoring subsequent work

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question or its context. (eg an incorrectly cancelled fraction when the unsimplified fraction would gain full marks).
It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect (eg. incorrect algebraic simplification).

8 Probability

Probability answers must be given as a fraction, percentage or decimal. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).
Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.
If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

9 Linear equations

Unless indicated otherwise in the mark scheme, full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously identified in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded (embedded answers).

10 Range of answers

Unless otherwise stated, when an answer is given as a range (eg 3.5 – 4.2) then this is inclusive of the end points (eg 3.5, 4.2) and all numbers within the range

11 Number in brackets after a calculation

Where there is a number in brackets after a calculation eg 2 × 6 (=12) then the mark can be awarded **either** for the correct method, implied by the calculation **or** for the correct answer to the calculation.

12 Use of inverted commas

Some numbers in the mark scheme will appear inside inverted commas eg "12" × 50 ; the number in inverted commas cannot be any number – it must come from a correct method or process but the candidate may make an arithmetic error in their working.

13 Word in square brackets

Where a word is used in square brackets eg [area] × 1.5 : the value used for [area] does **not** have to come from a correct method or process but is the value that the candidate believes is the area. If there are any constraints on the value that can be used, details will be given in the mark scheme.

14 Misread

If a candidate misreads a number from the question. eg uses 252 instead of 255; method or process marks may be awarded provided the question has not been simplified. Examiners should send any instance of a suspected misread to review.

Guidance on the use of abbreviations within this mark scheme	
M	method mark awarded for a correct method or partial method
P	process mark awarded for a correct process as part of a problem solving question
A	accuracy mark (awarded after a correct method or process; if no method or process is seen then full marks for the question are implied but see individual mark schemes for more details)
C	communication mark awarded for a fully correct statement(s) with no contradiction or ambiguity
B	unconditional accuracy mark (no method needed)
oe	or equivalent
cao	correct answer only
ft	follow through (when appropriate as per mark scheme)
sc	special case
dep	dependent (on a previous mark)
indep	independent
awrt	answer which rounds to
isw	ignore subsequent working

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
1	$4n - 3$	B2	for $4n - 3$ oe	Accept a different variable eg $4x - 3$ Accept $u_n = 4n - 3$, $T = 4n - 3$ etc
		(B1	for $4n + k$ where $k \neq -3$ or is absent unambiguously shown)	$n = 4n - 3$ or $4n^{th} - 3$ gets B1 only

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
2 (a)	$2\frac{2}{15}$	M1	for a method to subtract using a common denominator with at least one fraction correct (suitable common denominator for original fractions with at least one correct numerator) eg $\frac{57}{15}-\frac{25}{15}$ **or** $(3)\frac{12}{15}-(1)\frac{10}{15}$	Use of decimals gets no credit unless it leads to a correct fraction
		A1	for $2\frac{2}{15}$ oe eg $\frac{32}{15}$	ISW incorrect conversion from improper fraction to mixed number or incorrect simplification of improper fraction
(b)	Mistake identified	C1	for explaining that Kevin did not convert to the correct mixed number **Acceptable examples** In his answer $\frac{9}{24}$ should have been $\frac{11}{24}$ The 9 should be 11 He has not got the numerator right in his final answer He simplified into the mixed number incorrectly He has not put the remainder as the numerator $1\frac{9}{24}$ would give you $\frac{33}{24}$ rather than $\frac{35}{24}$ $\frac{35}{24}=1\frac{11}{24}$ **Not acceptable examples** He should have used a common denominator He has not simplified his answer He should have done keep, flip, change He converted the fraction wrongly The answer should be $1\frac{10}{24}$	Figures may be seen in the question space

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
3 (a)	Yes (supported)	P1	for a process to find the area of one shape, eg 10×8 (= 80) **or** 10×5 (= 50) **or** 8×6 (= 48) **or** $(10 - 6) \times 5$ (= 20) **or** $(10 - 6) \times (8 - 5)$ (= 12) **or** $6 \times (8 - 5)$ (= 18) **or** 5×6 (= 30)	Do not award this mark if they go on to multiply by a third length
		P1	for a complete process to find the total area, eg "80" – "12" (= 68) or "50" + "18" (= 68) or "48" + "20" (= 68)	
		P1	for a complete process to find the area covered by 3 tins eg $3 \times 2.5 \times 10$ (= 75) **or** for a complete process to find the number of litres needed eg "68" ÷ 10 (= 6.8) or [area] ÷ 10 **or** for a complete process to find the number of tins needed eg "68" ÷ 10 ÷ 2.5 (= 2.72) or [area] ÷ 10 ÷ 2.5	[area] is what they believe to be the area
		A1	for 'Yes' supported by correct figures eg 68 (m^2) **and** 75 (m^2) **or** 6.8 (litres) **and** 7.5 (litres) **or** 68 (m^2) **and** 2.72 (tins needed)	Ignore incorrect amount of paint left over if correct figures seen
(b)	No effect (supported)	C1	ft from (a) for "has no effect" with reason **Acceptable examples** No effect, she will need less paint It won't change, she will still have enough No, she will have more paint left over No, as this will cover 82.5m^2 **Not acceptable examples** Petra will need less paint She will have more paint left over She won't have enough paint She will need more paint	Must have a decision in (a) Must include a decision eg yes / no / no effect If figures included in the statement they must be correct for their [area] in (a)

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
4 (a)	10, 11, 13, 14, 16, 17	B1	cao	
(b)	$\frac{5}{9}$	M1	for identification of 10, 12, 14, 15, 18 **or** for $\frac{a}{9}$ where $1 \leq a \leq 8$, a an integer, or $\frac{5}{b}$ where $b > 5$, b an integer **or** for incorrect form, eg 5 : 9	
		A1	oe	Accept any equivalent fraction, decimal form, 0.55(5...) or 0.56 or percentage form, 55.(5...)% or 56%

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
5 (a)	Estimated value	P1	for using a value rounded to 1sf in a calculation eg 500 ÷ 10 **or** 500 × 0.8 **or** 510 × 0.8 **or** 513 × 0.8 **or** 500 × 0.81	Their rounded value must be used in a calculation Rounding may occur after a correct process, eg 513 ÷ 10 = 51.3 ≈ 50 and 50 × 0.81 513 ÷ 10 = 51.3 ≈ 51 and 51 × 0.8 scores P1P1 Accept 0.81 rounded to 0.80 for this mark Condone 0.81 rounded to 1 for this mark
		P1	for a full process to find the total amount eg 500 ÷ 10 × 0.8 oe (= 40) **or** 510 ÷ 10 × 0.8 oe (= 40.8) **or** 500 ÷ 10 × 0.81 (= 40.5) **or** [distance] ÷ 10 × [amount] oe	Where [distance] is their rounded 513 or 513 and [amount] is their rounded 0.81 or 0.81 Accept 513 ÷ 10 × 0.81 for this mark
		A1	for a correct answer following through their correct rounded value(s)	Do not award this mark if 0.81 is rounded to 1
(b)	underestimate with reason	C1	ft from (a) eg underestimate as numbers rounded down	Must relate to estimation and not rounding of their final answer and they must have a final answer to part (a)

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
6 (a)	$y = \frac{3}{2}x + 3$	M1	for a correct method to find the gradient of the line, eg $\frac{6-3}{2-0}$ (= $\frac{3}{2}$)	
			or identifies 3 as the intercept in words or in a partial equation	Just circling 3 is insufficient
			or for $y = [\frac{3}{2}]x + c$	$[\frac{3}{2}]$ must be identifiable as their gradient
			or for $y - b = [\frac{3}{2}](x - a)$ where (a, b) is a correct coordinate	c must be seen either as a letter or a number
		M1	for $y = \frac{3}{2}x$ (+ c) oe **or** for $y =$ "$\frac{3}{2}$"$x + 3$, $m \neq 0$ **or** (**L** =) $\frac{3}{2}x + 3$	Award of this mark implies the first M1
			or $y - y_1 = \frac{3}{2}(x - x_1)$ **or** $y - b =$ "$\frac{3}{2}$"$(x - a)$ where (a, b) is a correct coordinate	
		A1	oe	Any correct equation gets 3 marks
(b)	Equation	B1	for $y = 5x + c$, $c \neq 0$ oe	May be in any equivalent form

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
7	7.5	P1	for process to find the number of empty jars eg $3 \div 8 \times 400$ oe (= 150)	
		P1	for start of process to deal with ratios eg 3 : 4 and 4 : 8 **or** 3 : 4 : 8 oe	
		P1	for process to find the number of empty small jars eg $\frac{3}{3+4+8} \times$ "150" oe (= 30) **or** 30 : 40 : 80	
		P1	for process to find percentage, eg $\frac{"30"}{400} \times 100$ oe or $\frac{"7.5"}{100}$	
		A1	for 7.5 or $7\frac{1}{2}$ oe **OR**	
		P1	for start of process to deal with ratios eg 3 : 4 and 4 : 8 **or** 3 : 4 : 8 oe	
		P1	for process to find the proportion of the empty jars that are small eg $\frac{3}{3+4+8}$ $(=\frac{1}{5})$	
		P1	for process to find the proportion of Kasim's jars that are empty small jars eg $\frac{3}{8} \times "\frac{1}{5}"$ $(=\frac{3}{40})$	
		P1	for process to find percentage, eg $"\frac{3}{40}" \times 100$ oe or $\frac{"7.5"}{100}$	
		A1	for 7.5 or $7\frac{1}{2}$ oe	

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
8	2.8	M1 M1 A1	for 8×2.5 (= 20) **or** 3×2 (= 6) for a complete method eg (“20” – “6”) ÷ 5 for 2.8 or $2\frac{4}{5}$ oe mixed number	
9	30	B1	cao	
10	$x = 3$ $y = -4$	M1 A1 M1 A1 	for a correct method to eliminate either variable or rearrangement of one equation leading to substitution (condone one arithmetic error) for either $x = 3$ **or** $y = -4$ (dep M1) for a correct substitution of found value into one of the equations or a correct method leading to the second value (condone one arithmetic error) for $x = 3$ and $y = -4$ NB Trial and improvement methods score 0 marks unless both x and y are correct	

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
11	Rotation 90º clockwise centre (–4, 1)	M1 A2 (A1	for triangle **B** drawn at (4, 0), (4, –2), (3, –2) **or** for triangle **C** drawn at (–3, 0), (–3, –1), (–1, –1) **or** for rotating their **B** 90º clockwise about (1, 2) for rotation 90º clockwise centre (–4, 1) for any 2 of the 3 aspects)	Award for a triangle in the correct position without the label **B** or **C** as long as this is the only triangle in the quadrant. Accept just the vertices marked. Accept 270º (anticlockwise) Do not award A1 for 'rotation 90º clockwise' if triangle **C** is shown not in the correct orientation Do not award A marks if there is evidence of other transformations in the description or other ambiguity in the answer given
12 (i)	H	B1	cao	
(ii)	F	B1	cao	
(iii)	J	B1	cao	

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
13 (a)	Histogram drawn	B3	for fully correct histogram with axes scaled and labelled	Relative heights 2, 3.5, 4.4, 2, 0.8
		(B2	for 4 correct bars **or** for frequency ÷ class width for all 5 frequencies **and** 2 correct bars of different widths)	
		(B1	for 2 correct bars of different widths **or** for frequency ÷ class width for at least 3 frequencies)	
(b)	$\frac{67}{150}$	M1	for a method to find number of people in interval eg $\frac{1}{2} \times 70 + 22 + \frac{1}{3} \times 30$ (= 67) **or** $150 - 20 - 8 - \frac{1}{2} \times 70 - \frac{2}{3} \times 30$ (= 67) **or** $10 \times [3.5] + 5 \times [4.4] + 5 \times [2]$ ft their histogram	Where [3.5], [4.4] and [2] are the heights of the bars of their histogram
		A1	for $\frac{67}{150}$ or ft their histogram	
14	$6x^3 - 23x^2 - 38x + 15$	M1	for method to find the product of any two linear expressions (3 out of 4 terms correct or 4 correct terms ignoring signs) eg $6x^2 + 9x - 2x - 3$ **or** $3x^2 - 15x - x + 5$ **or** $2x^2 - 10x + 3x - 15$	Note that, for example, $7x - 3$ in expansion of $(3x - 1)(2x + 3)$ is regarded as 3 correct terms Do not award this mark for eg $6x^2 + 9x - 2x - 3 + 3x^2 - 15x - x + 5$
		M1	for a complete method to obtain all terms, half of which are correct (ft their first product) eg $6x^3 + 7x^2 - 30x^2 - 35x - 3x + 15$ or $6x^3 + 9x^2 - 32x^2 - 48x + 10x + 15$ or $6x^3 - 2x^2 - 21x^2 - 45x + 7x + 15$	First product must be quadratic with at least 3 terms but need not be simplified or may be simplified incorrectly
		A1	cao	

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
15	15π	P2	for process to find size of the angle eg $\frac{5\pi \times 360}{2 \times \pi \times 6}$ oe (= 150) or for working with proportion eg $\frac{5\pi}{12\pi}$ (= $\frac{5}{12}$) or $\frac{12\pi}{5\pi}$ (= $\frac{12}{5}$)	
		(P1	for a first step eg $\frac{x}{360} \times 2 \times \pi \times 6 = 5\pi$)	
		P1	(dep on P2) for process to find the area eg $\frac{"150"}{360} \times \pi \times 6^2$ **or** $\frac{5\pi}{12\pi} \times \pi \times 6^2$	
		A1	cao	
16	Shown	M1	for $\frac{n}{n+1}$ **or** $\frac{n-1}{n}$	
		A1	(dep) for $\frac{n}{n+1} \times \frac{n-1}{n}$ oe = $\frac{n-1}{n+1}$	Do not award A1 if errors seen
17 (a)	$\frac{\sqrt{7}}{7}$	B1	for $\frac{\sqrt{7}}{7}$ **or** $\frac{k\sqrt{7}}{7k}$ **or** $\frac{\sqrt{7k^2}}{7k}$ where k is an integer not equal to 0	
(b)	$3\sqrt{5}$	M1	for writing $\sqrt{80}$ as $\sqrt{16 \times 5}$ **or** $\sqrt{16} \times \sqrt{5}$ **or** $4\sqrt{5}$	
		A1	for $3\sqrt{5}$ or $\sqrt{45}$	

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
18	Shown	M1	for 0.1515... + 0.22727... (= 0.37878... or $0.3\dot{7}\dot{8}$)	
		M1	for finding two correct recurring decimals that when subtracted would result in a terminating decimal or integer, eg $(1000x - 10x =)$ 378.7878... – 3.7878... (= 375) or $\frac{375}{990}$ or $(100x - x =)$ 37.8787... – 0.37878... (= 37.5) or $\frac{37.5}{99}$	Recurring decimal notation acceptable for this mark
		C1	for correct working leading to $\frac{25}{66}$	
			OR	
		M1	for start of a method to convert 0.1515... **or** 0.22727... to a fraction, eg $100x = 15.1515...$ or $\frac{15}{99}$ or $\frac{5}{33}$ oe **or** $10y = 2.2727...$ or $100y = 22.7272...$ or $1000y = 227.2727...$ or $\frac{225}{990}$ or $\frac{22.5}{99}$ or $\frac{5}{22}$ oe	Recurring decimal notation acceptable for both M marks
		M1	for a method to convert 0.1515... **and** 0.22727... to fractions, eg $(100x - x =)$ 15.1515...– 0.1515... (= 15) or $\frac{15}{99}$ or $\frac{5}{33}$ oe **and** $(1000y - 10y =)$ 227.2727... – 2.2727... (= 225) or $(100y - y =)$ 22.7272... – 0.22727… (= 22.5) or $\frac{225}{990}$ or $\frac{22.5}{99}$ or $\frac{5}{22}$ oe	
		C1	for correct working leading to $\frac{25}{66}$	

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
19	2 : 5	P1	for using similar triangles to form an equation eg $\frac{AB}{BC}=\frac{AD}{AB}$ oe or $\frac{AB}{4}=\frac{25}{AB}$ oe or $\frac{AB}{4k}=\frac{25k}{AB}$ oe or $AB:4=25:AB$ oe or $BC\times\text{sf}=BD\div\text{sf}$ oe or $4\times\text{sf}=25\div\text{sf}$ oe **or** for working with the perpendicular height of triangle ABC eg $(h^2=)\ 25^2-23^2\ (=96)$ or $(h=)\ \sqrt{25^2-23^2}\ (=\sqrt{96})$	May use x or any other letter for AB Accept $AB = 4 \times \text{sf}$, $AB = 25 \div \text{sf}$
		P1	for process to find AB eg $(AB=)\ \sqrt{4\times25}\ (=10)$ oe or $\sqrt{"96"+2^2}\ (=10)$ **or** for process to find the scale factor eg $\sqrt{\frac{25}{4}}\ (=\frac{5}{2}\text{ oe})$	
		A1	oe	
20	$5\frac{5}{6}$	P1	for $2^x=2^{n-\frac{1}{3}}$ **or** $2^y=2^{\frac{5}{2}}$ **or** $x=n-\frac{1}{3}$ oe **or** $y=\frac{5}{2}$ oe **or** for $(2^{x+y}=)\ \frac{2^n}{\sqrt[3]{2}}\times\left(\sqrt{2}\right)^5$	
		P1	for $2^{x+y}=2^{n-\frac{1}{3}+\frac{5}{2}}$ **or** $x+y=n-\frac{1}{3}+\frac{5}{2}$ oe **or** $\frac{11}{2}=n-\frac{1}{3}$ oe	
		A1	oe eg $\frac{35}{6}$	

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
21	2.5	P1	for forming an equation using the volume, eg $20wh = 300$ or $wh = 15$ oe **or** for $300 \div 20$ (= 15)	Can use any variables for height and width
		P1	for forming an equation using the surface area, eg $20w + 20w + 20h + 20h + hw + hw = 370$ oe or $20w + 20w + 20h + 20h + 30 = 370$ oe	Use of 30 in this equation implies 1st P1
		P1	for eliminating one variable, eg $40h + \frac{600}{h} + 30 = 370$ or $40h^2 - 340h + 600$ (= 0) or $2h^2 - 17h + 30$ (= 0)	
		P1	for process to solve quadratic equation, eg $(2h - 5)(h - 6)$ (= 0) or $\frac{17 \pm \sqrt{(-17)^2 - 4 \times 2 \times 30}}{2 \times 2}$	Award P4 for answer of 6 if 2.5 and 6 identified and supported by working that involves both volume and surface area
		A1	for 2.5 oe	Do not award A1 for 2.5 if it is not supported by working that involves both volume and surface area

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
22 (a)	Sketch	M1	for correct shape for $0 \leq x \leq 360$	
		A1	for fully correct sketch with labels at 1 and –1	
(b)	210, 330	M1	for one correct solution **or** for $\sin 30 = \frac{1}{2}$	Can be implied by $x = -30$
		A1	cao	
23	–5	P1	for $x^2 + y^2 = 125$ **or** $5^2 + 10^2 (= 125)$	
		P1	for process to find y coordinate of Q, eg $(\pm)\sqrt{125-(-2)^2}$	
		P1	for selecting $-\sqrt{125-(-2)^2}$ eg $y = -11$	
		P1	(dep P2) for process to find y intercept, eg $\frac{10-[y]}{5--2}$ (= 3) **and** substitutes $x = 5$, $y = 10$ in $y =$ "3"$x + k$ or $\frac{10-[y]}{5--2}$ (= 3) **and** $[y] + 2 \times$ "3" or $\frac{10-k}{5} = \frac{k-[y]}{2}$ or $[y] + \frac{2}{7} \times (10 - [y])$	Where $[y]$ is their y coordinate of Q
		A1	cao	

Modifications to the mark scheme for Modified Large Print (MLP) papers: 1MA1 1H

Only mark scheme amendments are shown where the enlargement or modification of the paper requires a change in the mark scheme. Notes apply to both MLP papers and Braille papers unless otherwise stated.

The following tolerances should be accepted on marking MLP papers, unless otherwise stated below:
Angles: ±5º
Measurements of length: ±5 mm

PAPER: 1MA1_1H			
Question		**Modification**	**Mark scheme notes**
3		Diagram enlarged. Letters added to diagram (ABCDEF). Wording added: 'Look at the diagram for Question 3 in the separate Diagram Booklet. The diagram is NOT accurately drawn. The diagram shows a plan of a floor labelled ABCDEF. In the diagram: AB = 10 m BC = 5 m EF = 6 m FA = 8 m	Standard mark scheme
4		Diagram enlarged. Labels changed to 'Set P' and 'Set Q'. Wording added 'Look at the diagram for Question 4 in the separate Diagram Booklet. The diagram shows a Venn diagram with Set P and Set Q.'	Standard mark scheme
6		Diagram enlarged. Wording added 'Look at the diagram for Question 6 in the separate Diagram Booklet. The diagram shows a straight line L drawn on a coordinate grid.'	Standard mark scheme
11		Wording added 'Look at the diagram for Question 11 in the separate Diagram Booklet. The diagram shows triangle A on a coordinate grid. You may be given cut out shapes for this question.' Diagram enlarged. Triangle A moved one square lower on the grid. Centre of rotation for triangle B changed from (1, 2) to (1, 1)	M1 for triangle **B** drawn at (4, –1), (4, –3), (3, –3) **or** for triangle **C** drawn at (–3, –1), (–3, –2), (–1, –2) **or** for rotating their triangle **B** 90º clockwise about (1, 1) A2 for rotation 90º clockwise centre (–4, 0) (A1 for any 2 of the 3 aspects)
12		Wording added 'Look at the diagram for Question 12 in the separate Diagram Booklet. The diagram shows nine graphs labelled A, B, C, D, E, F, G, H, and J.'	Standard mark scheme

PAPER: 1MA1_1H			
Question		**Modification**	**Mark scheme notes**
13		Word 'below' added 'The table below gives information …' In the table: frequency 22 changed to 20 frequency 8 changed to 10	
	(a)	Wording added 'Look at the diagram for Question 13(a) in the separate Diagram Booklet. The diagram shows a grid.' For Braille: sentence added 'A spare tactile diagram, drawing film, Wikki stix and sticky labels are available for this question.'	Standard mark scheme but note that relative heights are now 2, 3.5, **4**, 2, **1**
	(b)		M1 for a method to find number of people in interval eg $\frac{1}{2} \times 70 + 20 + \frac{1}{3} \times 30$ (= 65) **or** $150 - 20 - 10 - \frac{1}{2} \times 70 - \frac{2}{3} \times 30$ (= 65) A1 for $\frac{65}{150}$ oe fraction eg $\frac{13}{30}$
15		Diagram enlarged Wording added 'Look at the diagram for Question 15 in the separate Diagram Booklet. The diagram is NOT accurately drawn. The diagram shows a sector of a circle labelled OAB, with centre O and radius 6cm OA = 6 cm OB = 6 cm	Standard mark scheme

PAPER: 1MA1_1H			
Question		**Modification**	**Mark scheme notes**
19		Diagram enlarged Wording added 'Look at the diagram for Question 19 in the separate Diagram Booklet. The diagram is NOT accurately drawn. The diagram shows two similar isosceles triangles, ABC and DAB. Sentence removed '*ABC* and *DAB* are similar isosceles triangles.'	Standard mark scheme
22	(a)	Diagram enlarged Wording amended 'Look at the diagram for Question 22 in the separate Diagram Booklet. The diagram shows two axes. On the axes, sketch the graph of $y = \sin x°$ for $0 \leq x \leq 360$' For Braille: sentence added 'A spare tactile diagram, Wikki stix and drawing film are available for this question.'	Standard mark scheme
	(b)	Word 'below' added 'Solve the equation below $2 \sin x° = -1$ for $0 \leq x \leq 360$'	Standard mark scheme

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