Pearson Edexcel

Mark Scheme (Results)

November 2021

Pearson Edexcel GCSE
In Mathematics (1MA1)
Higher (Calculator) Paper 2H

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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 (e.g 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.

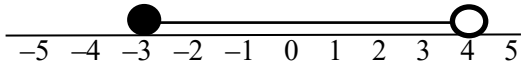
13 Word in square brackets

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: 1MA1/2H					
Question		**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
1	(a)	$x > -1$	B1	cao	
	(b)	Diagram drawn	C2	for a fully correct diagram, eg  	
			(C1	for drawing a line from −3 to 4 **or** (indep) for an open circle at 4 **or** (indep) for a closed circle at −3)	Condone arrow heads or line ending to denote the 'end' of the line
2	(a)	12	M1	for a correct factor tree for either 60 **or** 84 with no more than one arithmetic error **or** for listing factors of 60 **or** 84, at least 4 correct for either (with no more than 1 incorrect in either list), could be in factor pairs **or** for the prime factors of 60 (2, 2, 3, 5) **or** 84 (2, 2, 3, 7)	Condone the use of 1 in any factor tree 60: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60 84: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84
			A1	for 12 or 2×2×3 oe SC B1 for answer of 4 or 6, if M0 scored	2,2,3 is not enough, it must be a product
	(b)	120	M1	for a correct factor tree for either 24 **or** 40 with no more than one arithmetic error **or** for at least 3 multiples of both 24 and 40 (can include 24 and 40) **or** for the prime factors of either 24 (2, 2, 2, 3) **or** 40 (2, 2, 2, 5) **or** for a common multiple from their lists (≠ 120)	Condone the use of 1 in any factor tree 24: 24, 48, 72, 96, 120, … 40: 40, 80, 120, … For the list not containing 120, accept the first 3 correct multiples or one error in the first 4 multiples
			A1	for 120 or 2×2×2×3×5 oe	

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
3 (a)	80	M1	for a complete method eg $\frac{20}{15} \times 60$ **or** 20×4 **or** $20 \div \frac{1}{4}$	
		A1	cao	
(b)	Travel graph	M1	for method to find distance travelled in last 20 minutes, eg $75 \times \frac{20}{60}$ (= 25)	Can be implied by a distance of 25km drawn on the graph
		C2	for a fully correct travel graph	
		(C1	for horizontal straight line from (10 15, 20) to (10 25, 20) **or** for a line of the correct length and gradient to indicate a speed of 75km/h eg a straight line from (10 25, 20) to (10 45, 45))	
4 (a)	(10), 5, (2), 1, 2, (5), 10	B2	for all 4 values correct	
		(B1	for 2 or 3 correct values)	
(b)	Graph	M1	ft (dep on B1) for plotting at least 5 of their points correctly	
		A1	for a fully correct curve drawn	Accept a freehand curve drawn that is not made of line segments
(c)	–0.65 to –0.8 and 2.65 to 2.8	M1	for $y = 4$ drawn **or** intersection with $y = 4$ **or** $y = x^2 - 2x - 2$ drawn **or** 1 correct value ft a quadratic graph	If answers stated as coordinates, award M1 for both coordinates and M0 for one coordinate
		A1	ft a quadratic graph **or** for answers in the range 2.65 to 2.8 **and** –0.65 to –0.8	

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
5	41.6	P1	for start of process to find the length of the hypotenuse, eg (hyp^2 =) $8^2 + 10^2$ (= 164)	Note lengths may be seen on the diagram
		P1	for complete process to find hypotenuse, eg $\sqrt{8^2+10^2}$ **or** $\sqrt{64+100}$ **or** $\sqrt{164}$ (= 12.8…)	
		P1	(dep P2) for complete process to find the required perimeter, eg 8 + 8 + 10 + "12.8" + "12.8 – 10" **or** $16 + 4\sqrt{41}$	8 + 8+ "12.8" + "12.8" oe is acceptable for this mark
		A1	for answer in the range 41 to 42	If an answer in the range 41 to 42 is given in the working space then incorrectly rounded, award full marks.
6 (a)	17.8	M1	for $\tan 56 = \frac{x}{12}$ or $(BC) = 12 \times \tan 56$ oe **or** alternative method to find *BC*	For any alternative method candidates must arrive at an equation with BC as the only unknown
		A1	for an answer in the range 17.7 to 17.8	If an answer in the range 17.7 to 17.8 is given in the working space then incorrectly rounded, award full marks.
(b)	33.6	M1	for $\cos x = \frac{15}{18}$ **or** $\cos x = 0.83..$ **or** $x = \cos^{-1}\frac{15}{18}$ **or** alternative method to find *x*	For any alternative method candidates must arrive at an equation with *x* as the only unknown
		A1	for an answer in the range 33.5 to 33.91	If an answer in the range 33.5 to 33.91 is given in the working space then incorrectly rounded, award full marks.

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
7	1.6	P1 P1 A1	for 1.8×80 (= 144) **or** 1.2×40 (= 48) or for 192 **or** for 80 : 40 = 2 : 1 for (“144” + “48”) ÷ (80 + 40) or 192 ÷ 120 **or** for $(1.8 \times 2 + 1.2) \div 3$ or $4.8 \div 3$ oe	
8	Error in inequalites	C1	for identifying incorrect inequalities **Acceptable examples** gives at least one correct inequality eg ($10 < t \leq 20$) should be $0 < t \leq 20$ it should be $t \leq 20$ (all) inequalities should start with 0 should start with 0 **Not acceptable examples** $10 < t \leq 20$ is wrong the numbers have been added wrong	

Paper: 1MA1/2H					
Question		**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
9	(a)	138	M1	for upper quartile = 188 **or** lower quartile = 50 **or** an indication that they are trying UQ – LQ	Could be written on the grid
			A1	cao	
	(b)	Yes, with reason	C1	Yes, with reason **Acceptable examples** Yes, because the median is at 2 hour (120 min) Yes, since 50% is at the 2 hour mark Yes, because the middle is at 2 hours **Not acceptable examples** No ….. The median is at the 2 hour mark Yes, because 50% is exactly half way between "188" and "50"	
	(c)	statement	C1	**Acceptable examples** The median is lower on Tuesday (higher on Monday) The upper quartile is lower on Tuesday (higher on Monday) There may just have been one person waiting for 210 mins We don't know how many people were waiting for each time **Not acceptable examples** The range is bigger for Tuesday (smaller for Monday) The IQR is smaller for Tuesday (bigger for Monday)	M T Shortest time 20 20 Lower quartile 50 50 Median 120 100 Upper quartile 188 140 Longest time 200 210 Range 180 190 IQR 138 90

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
10	344 580.48	P1	for a start to the process to find the initial investment eg 344 605 ÷ 1.025 oe (= 336 200) **or** for 1.025^3 (= 1.07689….)	
		P1	for complete process to find original investment, eg 344 605 ÷ 1.025^3 oe (= 319 078 to 320 265)	
		P1	for [initial investment] × 1.02^2 × 1.035 oe	[initial investment] must be clearly what they believe to be that and cannot be 344605
		A1	for answer in the range 343 587 to 344 581	
11 (a)	(9, 7.5)	M1	for x coordinate = PO (6) × $\frac{3}{2}$ (=9) **or** y coordinate = OQ (3) × $\frac{5}{2}$ (= 7.5) **or** PO (6) × $\frac{5}{2}$ (=15) **or** OQ (3) × $\frac{3}{2}$ (= 4.5)	
		A1	cao	
(b)	$y = -2x + 3$	P1	for process to find the gradient of the line, eg 3 ÷ 6 (=0.5) **or** $y = mx + 3$	Could use P and R or Q and R as ft from (a)
		P1	for process to find gradient of perpendicular eg -1 ÷ [gradient of PQ] ($= -2$)	
		A1	for $y = -2x + 3$ oe	

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
12	$6x^3 + x^2 - 20x - 12$	M1 M1 A1	for method to find the product of any two linear expressions (3 out of no more than 4 terms correct with correct signs or 4 correct terms ignoring signs), eg. $6x^2 + 9x + 4x + 6$ or $3x^2 + 2x - 6x - 4$ or $2x^2 + 3x - 4x - 6$ for method of multiplying out remaining products, half of which are correct (ft their first product), eg. $6x^3 + 13x^2 - 12x^2 + 6x - 26x - 12$ cao	Note that, for example, $6x^2 + 13x$ or $13x + 6$ are regarded as three terms in the expansion of $(x - 2)(3x + 2)$ First product must be quadratic but need not be simplified or may be simplified incorrectly.
13	192 000	M1 A1	for $16 \times 120 \times 100$ oe cao	
14	25 with reasons	M1 M1 C2 (C1	for method to find angle *BCD* eg $180 \div (3 + 1)$ (= 45) **or** *BAD* = $180 \div (3 + 1) \times 3$ (=135) for method to find angle *BDA* eg 180 – 20 – (180 – "45") (=25) **or** method to find angle *SBD* eg *SBD* = *BCD* (=45) for finding *SBA* (=25) and both reasons given, eg <u>Opposite angles</u> of a <u>cyclic quadrilateral</u> add up to 180 for angle *SBD* = 45 because <u>alternate segment</u> theorem (dep M1) for one reason given <u>Opposite angles</u> of a <u>cyclic quadrilateral</u> add up to 180 for angle *SBD* = 45 because <u>alternate segment</u> theorem)	Could be shown on the diagram or in working Do not award if it ambiguous as to which angle is being found Underlined words need to be shown; reasons need to be linked to their method

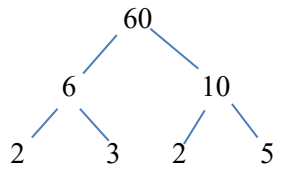
Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
15 (a)	11.4	M1	for start to method to find the length of BC eg. $8^2 + 11^2 - 2 \times 8 \times 11 \times \cos 72$	
		M1	(dep on M1) for method to use correct order of operations, eg. 64 + 121 – 54.38….. (= 130.61…)	
		A1	for answer in the range 11.4 to 11.5	If an answer within the given range is seen in working and rounded incorrectly award full marks.
(b)	41.8	M1	for $0.5 \times 8 \times 11 \times \sin 72$ (= 41.8…)	Any alternative method must be complete
		A1	for answer in the range 41.5 to 41.9	If an answer within the given range is seen in working and rounded incorrectly award full marks.
16 (a)	$x_1 = 1.817$ $x_2 = 1.853$ $x_3 = 1.846$	M1	for a correct method to find x_1 eg $\sqrt[3]{10-2\times 2}$ (= 1.8171……)	
		M1	(dep on M1) for substitution of x_1 to give x_2 **and** x_2 to give x_3	
		A1	for $x_1 = 1.81(71…)$, $x_2 = 1.85(33…)$ and $x_3 = 1.84(62….)$	Accept an accuracy of 2dp or more rounded or truncated
(b)	$a = 2$, $b = -10$	C1	cao	

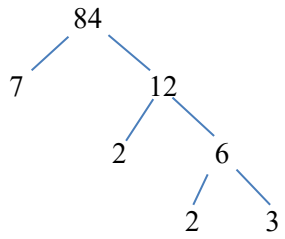
Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
17	30	P1	for process to find one correct frequency, eg. 0.8 × 5 (= 4) or 1.6 × 10 (= 16) or 2.2 × 10 (= 22) or 1.2 × 15 (= 18) **or** to find one correct area eg 5 × 8 (=40) or 10 × 16 (=160) or 10 × 22 (=220) or 15 × 12 (=180)	Accept equivalent methods proportional to those shown.
		P1	for process to find total number of people, eg. "4" + "16" + "22" + "18" (= 60) **or** for process to find total area eg "40" + "160" + "220" + "180" (= 600)	Condone 1 error in reading from the graph for 2nd and 3rd P marks
		P1	for process to find 20% of the total number of people, eg. "60" × 0.2 oe (= 12) **or** for process to find 20% of the total area "600" × 0.2 oe (=120)	
		A1	cao	NB: correct answer without supportive working gets 0 marks
18 (a)	37, 143, 397, 503	M1	for any two correct angles within the ranges below **or** for a correct method to find a solution beyond 360, eg. "angle read from 0 to 360" + 360	Accept given as coordinates for M1 only
		A1	for all 4 angles in the range, 35 to 40, 140 to 145, 395 to 400 and 500 to 505	
(b)	$y = -\sin x^o$	B1	for any acceptable equations, eg. $y = -\sin x^o$ or $y = \sin(-x^o)$ or $-y = \sin x^o$ or $y = \cos(x^o + 360n + 90)$ or for any positive integer n, $y = \sin(x^o - (2n - 1)180)$ or $y = \cos(x^o + 360n)$	Quoted are just the more likely solutions but check all attempts Condone missing degrees sign
(c)	graph	C1	for correct graph shown translated 2 in the positive x-direction	

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
19	25 : 36	P1	for $\sqrt[3]{125}$ (= 5) **and** $\sqrt[3]{27}$ (= 3) oe **OR** for correct process to find the radius of A and radius of B (3.10… and 1.86…)	Accept scale factors expressed as fractions or decimals eg 1.66, 1.67, 0.6 or better Ignore units throughout
		P1	for method to find values in ratio of length between *A* and *C* eg 5 **and** 2×3 (= 6) oe **or** "3.10…" **and** "1.86…" × 2 (=3.72…) **OR** 25 **and** 36 **OR** for correct process to find SA of A **and** SA of C (120.(8…)) and (174.(0…))	For both P marks the lengths need not be written as a ratio
		A1	for 25 : 36 oe eg 1: 1.44	
20	0.748	P1	for a process to find a correct probability product for 2 consecutive days, eg. 0.7 × 0.8 (rain M + T) **or** 0.7 × 0.2 (rain M + no rain T) **or** 0.3 × 0.6 (no rain M + rain on T) **or** 0.3 × 0.4 (no rain M + T)	Throughout accept probabilities given as fractions or percentages Could be for Tuesday and Wednesday also
		P1	for process to find a correct triple probability product for it raining on Wednesday, eg. 0.7 × 0.8 × 0.8 (rain M + T + W) (= 0.448 **or** $\frac{56}{125}$ oe) **or** 0.7 × 0.2 × 0.6 (rain M + no rain T + rain W) (= 0.084 **or** $\frac{21}{250}$ oe) **or** 0.3 × 0.6 × 0.8 (no rain M + rain T + rain W) (= 0.144 **or** $\frac{18}{125}$ oe) **or** 0.3 × 0.4 × 0.6 (no rain M + no rain T + rain W) (= 0.072 **or** $\frac{9}{125}$ oe)	
		P1	for complete process, eg. "0.448" + "0.084" + "0.144" + "0.072"	
		A1	oe eg, $\frac{187}{250}$	NB: correct answer without supportive working gets 0 marks

Paper: 1MA1/2H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
21	984.(3677853) and 969.(0181643)	B1	stating bound of 51.95 or 52.05 or 1.445 or 1.455	Accept $52.04\dot{9}$ or 52.0499… for 52.05 Accept $1.45\dot{4}9$ or 1.4549… for 1.455
		P1	for process to rearrange formula to give g as the subject, eg $g=\frac{4\pi^2 l}{T^2}$ oe	Rearrangement may occur after substitution, in this case correct bounds are not needed for this mark
		P1	for process to use LB of l **and** UB of T in formula for g or T **or** process to use UB of l **and** LB of T in formula for g or T eg $\frac{4\pi^2[\text{LB of } l]}{[\text{UB of } T]^2}$ or $\frac{4\pi^2[\text{UB of } l]}{[\text{LB of } T]^2}$	$51.95 \leq$ [LB of l] < 52.0 $1.45 <$ [UB of T] ≤ 1.455 $52.0 <$ [UB of l] ≤ 52.05 $1.445 \leq$ [LB of T] < 1.45 Rearrangement may not be correct
		A1	for upper bound = 984.(3677853) or 984.(1125639..) **and** lower bound = 969.(0181643) or 968.(7669227..)	NB: correct answer without supportive working gets 0 marks Accept answers rounded or truncated to 3sf or better

Question **1**

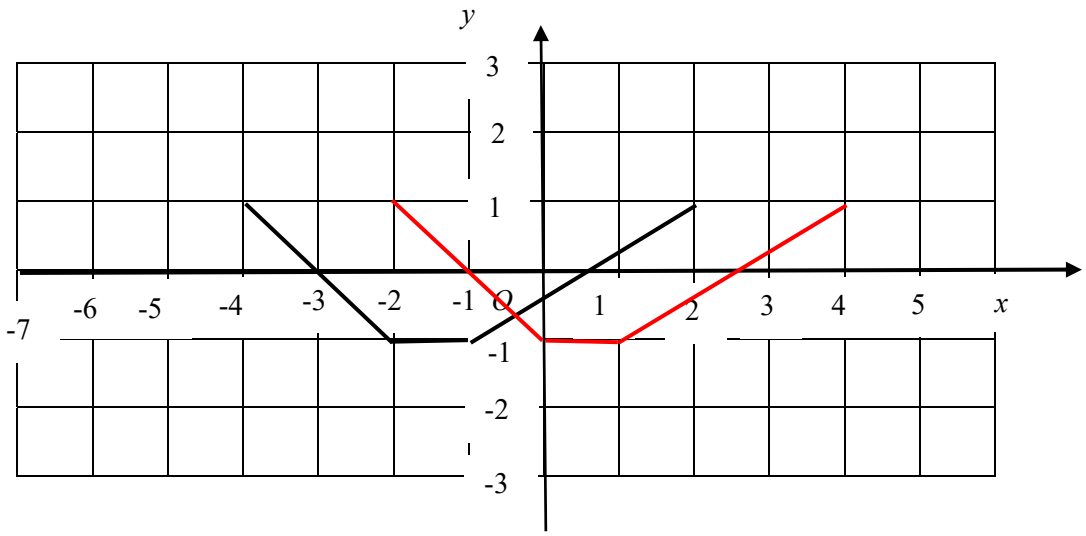




60: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

84: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84

Question **18(c)**



Modifications to the mark scheme for Modified Large Print (MLP) papers: 1MA1 2H

Only mark scheme amendments are shown where the enlargement or modification of the paper requires a change in the mark scheme.

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

PAPER: 1MA1_2H			
Question		**Modification**	**Mark scheme notes**
1	(a)	Wording added 'Look at the diagram for Question 1(a) in the Diagram Booklet. It shows a number line.' Wording 'shown on this number line' removed and replaced with 'shown on the number line.' Diagram enlarged. The scale cut at −3, but −3 still marked. Axis label moved to the right. Scale markings moved above and below. Open headed arrows and shortened at the end of the scale.	Standard mark scheme
1	(b)	Wording added 'Look at the diagram for Question 1(b) in the Diagram Booklet. It shows a blank number line.' Diagram enlarged. The scale cut at −4, but −4 still marked. Open headed arrow and shortened at the end of the scale. Axis label moved to the right. Scale markings moved above and below. Braille: a spare diagram is provided with 4 round bumpons, 4 square bumpons, Wikki Stix and drawing film.	Standard mark scheme

PAPER: 1MA1_2H			
Question		**Modification**	**Mark scheme notes**
3		Wording added 'Look at the diagram for Question 3 in the Diagram Booklet.' Wording added 'The travel graph for the first 15 minutes of his journey is shown in the Diagram Booklet.' Diagram enlarged. Right axis labelled. Open headed arrows. Axes labels moved to the top of the vertical axis and to the left of the horizontal axis. In (b) Wording added 'On the grid in the Diagram Booklet,…'. Braille: time shown with colons. Braille alternative wording: 'The diagram shows an incomplete travel graph for Sam's car journey.' 'The first 15 minutes of his journey is represented on the graph.' In part (b) for Braille a spare diagram is provided with 6 round bumpons and Wikki Stix.	Standard mark scheme
4	(a)	Table enlarged and turned vertical. Wording added 'There are four spaces to fill.' Braille: In the table (i), (ii), (iii), & (iv) in the blank spaces, then 'Ans: (i) __ (ii) __ (iii) __ (iv) __'	Standard mark scheme
4	(b)	Wording added 'Look at the diagram for Question 4(b) in the Diagram booklet. It shows a grid.' Diagram enlarged. Small squares removed. Open headed arrows. Axes labels moved to the top of the vertical axis and to the right of the horizontal axis. Braille: a spare diagram is provided with 16 round bumpons and Wikki Stix.	Standard mark scheme but in part (c) answers in the ranges 2.6 to 2.9 **and** –0.6 to –0.9
5		Wording added 'Look at Diagram 1 and Diagram 2 for Question 5 in the Diagram Booklet. Diagram 1 shows a right-angled triangle labelled shape A with a base length of 10 mm and a vertical height of 8 mm.' Diagrams enlarged. Right angles made more obvious. Wording added 'Diagram 2 is a shaded shape made from two shape A triangles.' 'shape A' wording added inside the triangles. Wording 'Work out the perimeter of the shaded shape in Diagram 2.'	Standard mark scheme

PAPER: 1MA1_2H			
Question		**Modification**	**Mark scheme notes**
6	(a)	Wording added 'Look at the diagram for Question 6(a) in the Diagram Booklet. It shows a right-angled triangle, *ABC*.' Wording added: '*AC* = 12 cm, Angle *BAC* = 56º, Angle *CAB* is a right angle.' Diagram enlarged. Right angle made more obvious. Angle moved outside of the angle arc and the angle arc made smaller.	Standard mark scheme
6	(b)	Wording added 'Look at the diagram for Question 6(b) in the Diagram Booklet. It shows a right-angled triangle, *PQR*.' Wording added: '*PR* = 18 cm, *RQ* = 15 cm , Angle *PQR* is a right angle , Angle *PRQ* is marked *x*' Diagram enlarged. Right angle made more obvious. Angle moved outside of the angle arc and the angle arc made smaller.	Standard mark scheme
8		Wording added 'Look at Table 1 and Table 2 for Question 8 in the Diagram Booklet. Table 1 is a grouped frequency table which gives…'. Wording 'This is the table that Brian drew.' removed and replaced by 'Brian drew Table 2.' Tables enlarged. For Braille the alternative wording is 'The grouped frequency table below…' and 'The table that Brian drew is shown below.'	Standard mark scheme

PAPER: 1MA1_2H			
Question		**Modification**	**Mark scheme notes**
9		Wording added 'Look at the diagram for Question 9 in the Diagram Booklet. It is a box plot which shows…'. The lower quartile moved down to 40 and the upper quartile moved down to 180. Small squares removed. Diagram enlarged. Open headed arrows. Horizontal axis label moved to the left. The box plot labelled 'Monday'.	Part (a): M1 for upper quartile = 180 or lower quartile = 40 **or** an indication that they are trying UQ – LQ A1 for 140 Part (b) standard mark scheme
9	(c)	Wording added 'Look at the table for Question 9(c) in the Diagram Booklet. It is shown below the box plot. It gives…'. Table enlarged. The lower quartile changed to 40. The table labelled 'Tuesday'.	Standard mark scheme but with the amended figures: M T Shortest time 20 20 Lower quartile 40 40 Median 120 100 Upper quartile 180 140 Longest time 200 210 Range 180 190 IQR 140 100
10		Wording added 'Look at the information for Question 10 in the Diagram Booklet.' The names '(Louise)' and '(Sadiq)' added beside each title.	Standard mark scheme
11		Wording added 'Look at the diagram for Question 11 in the Diagram Booklet. It shows a sketch…'. Diagram enlarged. Crosses changed to solid dots. Open headed arrows. Axes labels moved to the top of the vertical axis and to the right of the horizontal axis.	Standard mark scheme
12		The letter x changed to y.	Standard mark scheme but note the change in letters
14		Wording added 'Look at the diagram for Question 14 in the Diagram Booklet.' Diagram enlarged. The line SBT reduced slightly so that it is not too long. Angle moved outside of the angle arc and the angle arc made smaller.	Standard mark scheme

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Question		**Modification**	**Mark scheme notes**
15		Wording added 'Look at the diagram for Question 15 in the Diagram Booklet. It shows the triangle ABC.' Wording added: 'AC = 8 cm, AB = 11 cm, Angle CAB = 72º ' Diagram enlarged. Angle moved outside of the angle arc and the angle arc made smaller.	Standard mark scheme
17		Wording added 'Look at the diagram for Question 17 in the Diagram Booklet. It shows a histogram.' The values changed as follows: 0 to 5 moved up to 1.0, 5 to 15 moved down to 1.5 15 to 25 moved up to 2.5, 25 to 40 moved down to 1.0 Diagram enlarged. Small squares removed. Open headed arrows. Axes labels moved to the top of the vertical axis and to the left of the horizontal axis. Shading changed to dotty shading. Right axis has been labelled.	P1 for process to find one correct frequency, eg. 1.0 × 5 (= 5) or 1.5 × 10 (= 15) or 2.5 × 10 (= 25) or 1.0 × 15 (= 15) **or** to find areas eg 5 × 10 (=50) or 10 × 15 (=150) or 10 × 25 (=250) or 15 × 10 (=150) P1 for process to find total number of people, eg. "5" + "15" + "25" + "15" (= 60) **or** to find total area eg "50" + "150" + "250" + "150" (= 600) P1 for process to find 20% of the total number of people, eg. "60" × 0.2 oe (= 12) **or** for process to find 20% of the total area eg"600" × 0.2 oe (=120) A1 cao for 28

PAPER: 1MA1_2H			
Question		**Modification**	**Mark scheme notes**
18	(a), (b)	Wording added 'Look at the diagram for Question 18(a) and (b) in the Diagram Booklet. It shows…' Diagram enlarged. Small squares removed. Axes labels moved to the top of the vertical axis and to the right of the horizontal axis.	Standard mark scheme but in (a) accept answers in the ranges 32 to 45, 135 to 148, 392 to 405 and 495 to 508
18	(c)	Wording added 'Look at the diagram for Question 18(c) in the Diagram Booklet. It shows…' Diagram enlarged. Small squares removed. Axes labels moved to the top of the vertical axis and to the right of the horizontal axis	Standard mark scheme
21		Lowercase *l* to capital **L**.	Standard mark scheme

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