Pearson Edexcel

Mark Scheme (Results)

Summer 2024

Pearson Edexcel GCSE
In Mathematics (1MA1)
Higher (Calculator) Paper 3H

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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

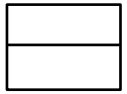
Where a word is used in square brackets eg [area] × 1.5 : the value used for [area] does **not** have to come from a correct method or process but is the value that the candidate believes is the area. If there are any constraints on the value that can be used, details will be given in the mark scheme.

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: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
1	21	M1	for a complete factor tree for 63 or 105 with no more than one arithmetic error **or** for listing at least 4 correct factors (with no more than 1 incorrect) of 63 or 105, could be in factor pairs **or** for the prime factors of 63 (3, 3, 7) or 105 (3, 5, 7)	Condone the inclusion of 1 for this mark May be seen in different ways, 1, 3, 7, 9, 21, 63 1, 3, 5, 7, 15, 21, 35, 105 Prime factors may be seen in a diagram eg a Venn diagram
		A1	cao SCB1 for an answer of 3 or 7 or 3 × 7 if M0 scored	
2 (a)(i)	53 000	B1	cao	
(ii)	0.000 074	B1	cao	
(b)	3.42×10^7	M1	for 9 700 000 + 24 500 000 (= 34 200 000) **or** 3.42×10^n $(n \neq 7)$ oe **or** 3.4×10^7 **or** correct answer in incorrect form eg 34.2×10^6 **or** both in a form ready for addition, eg $9.7 \times 10^6 + 24.5 \times 10^6$	
		A1	cao	

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
3 (a)	Explanation	C1	for explanation **Acceptable examples** The height of the rectangle / it should be less than 4 cm The 4 cm sides are wrong / too long The height of the rectangle should be 2.6... / $\sqrt{7}$ She's drawn the slanted height / not used the perpendicular height The height is smaller / not 4 cm / wrong It should be shorter as the side is at an angle It should be on an angle, so the height is smaller The length / width / side is 4 cm not the height She's drawn the face / the length and side / width of the rectangle She's drawn the length and side / width not the (length and the) height **Not acceptable examples** The rectangle should be wider The rectangle should be 6 squares high It doesn't tell us the height It should be smaller It's the front not the side It's not on a slant / it should be on a slant It goes up at an angle / it doesn't go straight up The length of the prism is 4 cm The length / width / side of the rectangle is 4 cm Side elevation is at a slant (not straight up)	
(b)		M1	for a 7 cm by 6 cm rectangle **or** for a 7 cm by n cm or m cm by 6 cm rectangle **and** dividing line which is parallel to the 7 cm or the m cm side	
		A1	for a fully correct plan	Accept any orientation Accept a freehand drawing

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
4	29 775	P1 P1 P1 A1 SCB1 for 3000 or 4500 or 28000 or 29500 seen if P0 scored	for evidence of using a correct first step eg 25 000 × 0.06 (= 1500) or 25 000 × 1.06 (= 26 500) for evidence of a "compound interest" process eg "26 500" × 0.06 (= 1590) or "26 500" × 1.06 (= 28 090) **or** $25\,000 \times 1.06^t$, $t \geq 2$ for a complete process eg $25\,000 \times 1.06^3$ (= 29 775.4) for 29 775 or 29 776 or 29 780 or 29 800	P3A0 is implied by 4775 or 4776 or 4780 or 4800
5	2	P1 P1 P1 A1	for process to find volume of tin eg 600 ÷ 0.6 (= 1000) for process to find volume of salt eg "1000" – 700 (= 300) for a process to find density of the salt eg 600 ÷ "300" **or** 0.6 × ("1000" ÷ "300") **or** 600 ÷ [volume] cao	Award P1 for 600 ÷ 0.6 (= 1000) even if not used [volume] can be 700 or from a seen calculation using "1000", "300", 700 or identified as volume by label or formula or units A correct answer with no supportive working gets 0 marks

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
6 (a)	0.4	B1	for 0.4 in correct position	Accept equivalent fractions or percentages for probabilities
	0.45, 0.55, 0.45	B1	for the correct probabilities for coin **B** in the correct place on the branches	
(b)	0.33	M1	for a correct method, eg 0.6×0.55 only	
		A1	for 0.33 oe	An answer of $\frac{0.33}{1}$ scores M1A0
7	63	P1	for process to find volume, eg $\pi \times 100^2 \times 30$ (= $300\,000\pi$ or 942 477(.796...))	(volume =) 942 478 implies P1
		P1	for process to find time in seconds, eg "942 477(.796...)" ÷ 250 (= 1200π or 3769(.911...)) **or** [volume] ÷ 250 **or** for converting rate to minutes, eg 250×60 (= 15 000)	(time =) 3770 implies P2 [volume] ≠ 30, 60, 100, 250
		P1	for complete process eg "3769(.911...)" ÷ 60 (= 20π) **or** "942 477(.796...)" ÷ "15 000" (= 20π)	
		A1	for answer in the range 62 to 63	A correct answer with no supportive working gets 0 marks If an answer is shown in the range in working and then incorrectly rounded award full marks

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
8	Vector $\binom{5}{8}$ drawn	M1	for $2 \times 3 + -1$ (= 5) or $2 \times 2 + 4$ (= 8) seen as a calculation **or** for $\binom{2\times3}{2\times2} + \binom{-1}{4}$ **or** for $\binom{5}{b}$ or $\binom{a}{8}$ **or** for $\binom{3}{2}$ drawn or $\binom{6}{4}$ drawn or $\binom{-1}{4}$ drawn	May be in the correct position in a column vector or coordinate. Condone missing arrows
		M1	for $\binom{5}{8}$ **or** for $\binom{5}{8}$ drawn with no arrow or incorrect arrow **or** for $\binom{5}{b}$ drawn with arrow or $\binom{a}{8}$ drawn with arrow, where $b \neq 8$ and $a \neq 5$	
		A1	cao	For this mark the drawn vector must include an arrow showing direction. Need not be labelled but do not award if there is any ambiguity

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
9	10.125	P1	for process to find volume of at least one of the cube or the pyramid, eg $6 \times 6 \times 6$ (= 216) oe or $k \times 8 \times 8 \times h$ ($= \frac{64}{3}h$) oe	Check diagram for working Throughout $0 < k \leq 1$
		P1	for process to form an equation, eg $6 \times 6 \times 6 = k \times 8 \times 8 \times h$ or "216" $= \frac{64}{3}h$ **or** for process to find h eg "216" $\div 8^2 \div k$	
		A1	for 10.125 oe mixed number	

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
10	Result shown	M1	for method to find the number of yellow counters in bag **A**, eg $x \div 3 \times 5$ $(= \frac{5x}{3})$ or for method to find the total number of counters in bag **A** eg $x \div 3 \times 8$ $(= \frac{8x}{3})$ or for starting to work with ratio using algebra eg $3y$, $5y$	Could use any letter other than y apart from x
		M1	(dep) for method to find the total number of counters in bag **B**, eg $(x + \text{“}\frac{5x}{3}\text{”}) \div 2$ $(= \frac{4x}{3})$ or $\text{“}\frac{8x}{3}\text{”} \div 2$ $(= \frac{4x}{3})$ or $(3y + 5y) \div 2$ $(= 4y)$	For the method marks condone decimals that are rounded or truncated to 1dp
		C1	for complete method showing that total number of counters in bag **A** and bag **B** is $4x$, eg $\frac{8x}{3} + \frac{4x}{3} = 4x$ or $3y + 5y + 4y = 12y$ **and** $12y \div 3y \times x = 4x$	For the C mark only accept values that are shown to be recurring and allow $3.\dot{9}x = 4x$

<table>
<tr><th colspan="5">Paper: 1MA1/3H</th></tr>
<tr><th>Question</th><th>Answer</th><th>Mark</th><th>Mark scheme</th><th>Additional guidance</th></tr>
<tr><td>11 (a)</td><td>Box plot drawn</td><td>M1

M1

A1</td><td>for method to find UQ (47) or greatest value (62) from the table

for showing a box and at least 3 correctly plotted values from 25, 35, 40, 47, 62

for a fully correct box plot</td><td>May be implied by one of these values being correctly plotted.

Box can be any height. Accept ends that are marked (eg line, cross, dot) or defined by the end of the whiskers if clear</td></tr>
<tr><td>(b)</td><td>Comparison</td><td>C1

C1</td><td>ft a correct comparison of medians from figures, eg the median speed for Sunday was greater than the median speed for Friday or the speed on Friday is generally lower as the median is lower

ft for a correct comparison of spread, eg the (interquartile) range of the speeds for Friday is smaller than the (interquartile) range of the speeds for Sunday, the (interquartile) range on Sunday is larger than the (interquartile) range on Friday
Comparisons for this mark can relate to the range or the IQR</td><td>Simply quoting values is insufficient, they must be compared.

<table><tr><td></td><td>Median</td><td>Range</td><td>IQR</td></tr><tr><td>Friday</td><td>40</td><td>37</td><td>12</td></tr><tr><td>Sunday</td><td>42</td><td>44</td><td>15</td></tr></table>
Figures need not be stated but if they are they must be correct.

For 2 marks, at least one comparison must be in context (eg refers to speed or mph)</td></tr>
<tr><td>12</td><td>Correct enlargement</td><td>B2

(B1</td><td>for correct enlargement (–2, –4), (–2, –6), (–6, –4)

for correct size and orientation but incorrect position
or 2 out of 3 vertices correctly placed)</td><td>Award for clear intention, shading not needed.</td></tr>
</table>

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
13	435	M1	for start to method of finding the number of pairs, eg 30×29 (= 870) oe or $\frac{30 \times 29}{2}$ or clear intention to sum the integers from 1 to 29 eg $29 + 28 + \ldots + 2 + 1$	M1 for $\frac{1}{30} \times \frac{1}{29}$
		A1	cao	
14	4400	P1	for start to processes needed to find the investment, eg 2937.14 + 1000 (= 3937.14) **OR** starts to work with algebra, eg $P \times 1.035 - 750$	
		P1	for process to find amount of money at the beginning of 2023 after the first withdrawal, eg "3937.14" ÷ 1.035 (= 3804) or [value] ÷ 1.035 **OR** writes down complete equation, eg $(P \times 1.035 - 750) \times 1.035 - 1000 = 2937.14$	[value] can be 2937.14 or 2937.14 + 750 or 2937.14 + 1750
		P1	for complete process, eg ("3804" + 750) ÷ 1.035 **OR** for a start to the process to solve the equation to find $1.035P - 750$ eg $P \times 1.035 - 750 = \frac{2937.14 + 1000}{1.035}$ or $1.035P - 750 = 3804$ **or** for a start to the process to solve the complete equation eg $1.035^2P - 776.25 = 2937.14 + 1000$ or $1.035^2P - 1000 = 2937.14 + 776.25$ or $1.035^2P = 2937.14 + 776.25 + 1000$	
		A1	cao	A correct answer with no supportive working gets 0 marks

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
15 (a)	$\frac{a-3}{5}$	B1	for $\frac{a-3}{5}$ oe	
(b)	$(3k-1)(k+4)$	M1	for $(3k \pm 1)(k \pm 4)$ oe or for brackets which when expanded give 2 out of 3 terms correct	Accept $3k(k+4)-(k+4)$ Accept $k(3k-1)+4(3k-1)$
		A1	cao	Accept $(1-3k)(-k-4)$
(c)	$\frac{2-x}{x}$	M1	for factorisation eg $(4-x^2=)\ (2-x)(2+x)$ **and** $(x^2+3x=)\ x(x+3)$ **or** for inversion and multiplication (condone incorrect factorising) eg $\frac{4-x^2}{x^2+3x}\times\frac{x+3}{x+2}$ oe	
		M1	for factorisation of both quadratics **and** inversion and multiplication, eg $\frac{(2-x)(2+x)}{x(x+3)}\times\frac{x+3}{x+2}$ allow sign errors in one bracket	
		A1	for $\frac{2-x}{x}$ or $\frac{2}{x}-1$	

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
16 (a)	–6	B1	cao	
(b)	4	M1	for g(1) = 5 – 3 × 1 (= 2) **and** a clear intention to find f("2") **or** for $\frac{12}{5-3\times1+1}$ **or** for stating fg, eg $\frac{12}{5-3x+1}$ oe	For reference f$(x) = \frac{12}{x+1}$ and g$(x) = 5 - 3x$
		A1	cao	Accept $\frac{4}{1}$
(c)	$\frac{1}{3}$	M1	for g^{-1} as $\frac{5-x}{3}$ oe **or** for $5 - 3x = 4$ **or** $g\left(\frac{1}{3}\right) = 5 - 1 = 4$	Could be shown in the form of a flowchart, which must show correct inverse operations. Allow g^{-1} and g to be in terms of y ie accept $\frac{5-y}{3}$ and $5 - 3y = 4$
		A1	for $\frac{1}{3}$ oe eg 0.33(3…)	
17	1.331	M1	for method to find height after 2nd bounce, eg 0.55 × 8 (= 4.4)	
		M1	for method to find height after 3rd bounce, eg 0.55 × "4.4" (= 2.4(2)) or for method to find height after 4th bounce, eg $0.55^3 \times 8$ or for method to find height after 5th bounce, eg $0.55^4 \times 8$ (= 0.73(205))	Award this mark for $0.55^n \times 8$ where $n > 1$
		A1	for 1.331, accept 1.33, 1.3 oe mixed number	If a correct answer is shown and then incorrectly rounded award full marks

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
18	52.5	P1	for start of process to find length of AC, eg $\frac{1}{2}\times 17\times AC\times\sin 35 = 54$ **or** $(AC =)\ 54\div(\frac{1}{2}\times 17\times\sin 35)$ (= 11.076…)	Check diagram for working throughout
		P1	for start of process to find AD or CD, eg $\frac{AD}{\sin 48}=\frac{"11.076"}{\sin 57}$ oe **or** $\frac{AD}{\sin 48}=\frac{[AC]}{\sin 57}$ oe **or** $\frac{CD}{\sin"75"}=\frac{"11.076"}{\sin 57}$ oe **or** $\frac{CD}{\sin"75"}=\frac{[AC]}{\sin 57}$ oe	Throughout $"75" = 180-48-57$ $[AC]$ must be a numerical value and clearly identified by labelling or on the diagram with no contradiction.
		P1	for complete process to find AD or CD $(AD =)\ \frac{"11.076"}{\sin 57}\times\sin 48$ (= 9.81…) or $(AD =)\ \frac{[AC]}{\sin 57}\times\sin 48$ **or** $(CD =)\ \frac{"11.076"}{\sin 57}\times\sin"75"$ (= 12.7…) or $(CD =)\ \frac{[AC]}{\sin 57}\times\sin"75"$	
		P1	for process to find area of triangle ACD, eg $\frac{1}{2}\times"11.076"\times"12.7"\times\sin 48$ or $\frac{1}{2}\times[AC]\times[CD]\times\sin 48$ **or** $\frac{1}{2}\times"11.076"\times"9.81"\times\sin"75"$ or $\frac{1}{2}\times[AC]\times[AD]\times\sin"75"$ **or** $\frac{1}{2}\times"9.81"\times"12.7"\times\sin 57$ or $\frac{1}{2}\times[AD]\times[CD]\times\sin 57$	$[AC]$, $[AD]$, $[CD]$ must be numerical values and clearly identified by labelling or on the diagram with no contradiction.
		A1	for answer in the range 52.4 to 52.52	If an answer is shown in the range in working and then incorrectly rounded award full marks

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
19	1610	B1	for 5.875×10^8 or 5.885×10^8 or 3.55×10^5 or 3.65×10^5 or the digits 5875 or 5885 or 355 or 365	Accept $5.884\dot{9}$ for 5.885 Accept $3.64\dot{9}$ for 3.65
		M1	for method to find lower bound, $\frac{[\text{LB}]}{[\text{UB}]}$ eg $(5.875 \times 10^8) \div (3.65 \times 10^5)$ oe	$5.875 \times 10^8 \leq [\text{LB}] < 5.88 \times 10^8$ $3.6 \times 10^5 < [\text{UB}] \leq 3.65 \times 10^5$
		A1	for answer in range 1609 – 1610 from correct working	If an answer is shown in the range in working and then incorrectly rounded award full marks
20 (a)	3.5	P1	for process to find the common difference between the first and second and the common difference between the third and second term eg $(3x + 1) - (x + 2)$ $(= 2x - 1)$ **and** $(x + 2) - (x - 4)$ $(= 6)$ **or** for process to write a correct equation in x, eg $(3x + 1) - (x + 2) = (x + 2) - (x - 4)$ or $2x - 1 = 6$ oe	
		A1	for 3.5 oe eg $\frac{7}{2}$	
(b)	-0.5, 8	P1	for process to write a correct equation in terms of the common ratio and y eg $r(y - 4) = y + 2$ or $r(y + 2) = 3y + 1$	r can be any letter apart from y
		P1	for process to write a correct equation in y eg $\frac{3y + 1}{y + 2} = \frac{y + 2}{y - 4}$ oe	
		P1	for process to write a correct equation without fractions eg $(3y + 1)(y - 4) = (y + 2)(y + 2)$ oe	
		P1	for process of writing a correct simplified equation eg $2y^2 - 15y - 8 (= 0)$	The quadratic does not have to equal 0, ie accept $2y^2 - 15y = 8$
		A1	cao	

Paper: 1MA1/3H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
21	Result shown	P1	for process to find the length of half a side or a side or the perimeter of the smaller hexagon *PQRSTU*, eg $r\sin 30 \left(=\frac{r}{2}\right)$ oe or $2r\sin 30 \ (=r)$ oe or $6 \times 2r\sin 30 \ (=6r)$ oe	May use Sine Rule or cos60 instead of sin30
		P1	for process to find the length of half a side or a side or the perimeter of the larger hexagon *ABCDEF* eg Length of half side = $r \tan 30$ or $\frac{r}{\tan 60} \left(=\frac{\sqrt{3}r}{3}\right)$ oe or Length of side = $2r \tan 30$ or $\frac{2r}{\tan 60}$ or $\frac{r}{\sin 60}$ or $\frac{r}{\cos 30} \left(=\frac{2\sqrt{3}r}{3}\right)$ oe or Length of perimeter = $6 \times 2r \tan 30$ or $6 \times \frac{2r}{\tan 60}$ oe	May use Sine Rule Note this mark is not for just the sight of $\frac{\sqrt{3}r}{3}$ or $\frac{2\sqrt{3}r}{3}$ or $\frac{12\sqrt{3}r}{3}$ oe, they need to be associated with the correct length Perimeter $= 4\sqrt{3}r$ alone does not get this mark
		P1	(dep P2) for process of forming a correct inequality, eg using half lengths eg $\frac{r}{2} < \frac{2\pi r}{12} < r \tan 30$ oe or using lengths eg $r < \frac{2\pi r}{6} < 2r \tan 30$ oe or using perimeters eg $6 \times r < 2\pi r < 6 \times 2r \tan 30$ oe	
		C1	(dep P2) correct algebra leading to given result, $3 < \pi < 2\sqrt{3}$	

Modifications to the mark scheme for Modified Large Print (MLP) papers: 1MA1 3H

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_3H			
Question		**Modification**	**Mark scheme notes**
3		For MLP: wording added 'Look at the diagram for Question 3 in the separate Diagram Booklet. It shows a solid triangular prism. The diagram is NOT accurately drawn. You may also be given a model.' For Braille: wording added 'Ask for the model for Question 3. The model IS accurately made. The model is a solid triangular prism.'	
	(a)	Wording added 'Look at the diagram for Question 3 (a) in the separate Diagram Booklet. The diagram shows a square grid. Each square on the grid represents a 1 cm square.' Sentence changed to 'Her answer is shown on the grid.'	Standard mark scheme
	(b)	Diagram Booklet has four shapes labelled shape A, shape B, shape C and shape D. Wording added 'Look at the diagram for Question 3 (b) in the separate Diagram Booklet. The diagram shows shape A, shape B, shape C and shape D drawn on a square grid. Each square on the grid represents a 1 cm square.' Demand changed to 'Which shape A, B, C or D is the plan view of the solid prism?'	B2 for C (B1 for B or D)
6	(a)	Diagram enlarged. Wording added 'Look at the diagram for Question 6 (a) in the separate Diagram Booklet. The diagram shows an incomplete probability tree diagram.'	Standard mark scheme
7		For MLP: wording added 'Look at the diagram for Question 7 in the separate Diagram Booklet. The diagram is NOT accurately drawn. The diagram shows a paddling pool in the shape of a cylinder. You may also be given a model.' For Braille: sentence added 'Ask for the model for Question 7. The model is NOT accurately made. The model represents a paddling pool in the shape of a cylinder.'	Standard mark scheme

<table>
<tr><td>8</td><td></td><td>Wording added ‘Look at the diagram for Question 8 in the separate Diagram Booklet.
The diagram is a grid.’
Demand now ‘On the grid, draw and label the vector 2a + b when a = $\begin{pmatrix}3\\2\end{pmatrix}$ and b = $\begin{pmatrix}-1\\4\end{pmatrix}$,
For Braille: sentence added ‘A spare tactile diagram, Wikki Stix, drawing film, vector arrows and sticky labels are available for this question.’</td><td>Standard mark scheme</td></tr>
<tr><td>9</td><td></td><td>For MLP: diagram enlarged. Wording added ‘Look at the diagram for Question 9 in the separate Diagram Booklet. The diagram is NOT accurately drawn. The diagram shows a cube with sides 6 cm and a square-based pyramid with an 8 cm square base and perpendicular height h cm. You may also be given two models.’
For Braille: sentence added ‘Ask for the models for Question 9. The models are NOT accurately made. Model A is a cube with sides 6 cm. Model B is a square – based pyramid with an 8 cm square base and a perpendicular height h cm.</td><td>Standard mark scheme</td></tr>
<tr><td>11</td><td>(a)

(b)</td><td>Sentence changed to ‘She uses her results to work out the information in the table below.’
Values in the table changed: Interquartile range from 12 to 10, Range from 37 to 35
Wording added ‘On the grid provided for Question 11 (a) in the separate Diagram Booklet, draw a box plot to show the information in the table.’
For Braille: sentence added ‘A spare tactile diagram and drawing film are available for this question.’

Wording added ‘Look at the diagram for Question 11 (b) in the separate Diagram Booklet.
The diagram shows a box plot.’

Box plot data changed from 22, 33, 42, 48, 66 to 20, 30, 45, 50, 65</td><td>M1 for method to find UQ (45) or greatest value (60) from the table
M1 for showing a box and at least 3 correctly plotted values from 25, 35, 40, 45, 60
A1 for a fully correct box plot

Standard mark scheme but note change in values

<table><tr><td></td><td>Median</td><td>Range</td><td>IQR</td></tr><tr><td>Friday</td><td>40</td><td>35</td><td>10</td></tr><tr><td>Sunday</td><td>45</td><td>45</td><td>20</td></tr></table></td></tr>
<tr><td>12</td><td></td><td>Diagram enlarged. Triangle T with vertices at (–2, –4), (–2, –6), (–6, –4) added to grid.
Wording added ‘Look at the diagram for Question 12 in the separate Diagram Booklet.
The diagram shows triangle T and triangle S on a coordinate grid.’
Demand changed to ‘Describe fully the single transformation that maps triangle T onto triangle S.
You may be given a cut-out shape for this question.’</td><td>B2 for enlargement, scale factor –2, centre (0, 0)
(B1 for any 2 aspects)</td></tr>
</table>

15	(a)	Letter changed: a changed to p	Standard mark scheme but note the change of letter
	(c)	Letter changed: x changed to y	Standard mark scheme but note the change of letter
18		Diagram enlarged. Labels changed on the diagram (B changed to D and D changed to B) Wording added 'Look at the diagram for Question 18 in the separate Diagram Booklet. The diagram is NOT accurately drawn. The diagram shows a quadrilateral labelled ABCD.' 'In the diagram: AD = 17 cm Angle ABC = 57° Angle ACB = 48° Angle CAD = 35°' Demand amended 'The area of triangle ACD is 54 cm^2 Calculate the area of triangle ABC.'	Standard mark scheme but note the changes in the vertices
21		Diagram enlarged. Dashed line with label 'r cm' drawn from centre to midpoint of EF. Wording added 'Look at the diagram for Question 21 in the separate Diagram Booklet. The diagram is NOT accurately drawn. The diagram shows a circle, radius r cm and two regular hexagons.'	Standard mark scheme

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