

Mark Scheme (Results)

Summer 2015

Pearson Edexcel GCSE  
In Mathematics A (1MA0)  
Foundation (Non-Calculator) Paper 1F

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Summer 2015

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## NOTES ON MARKING PRINCIPLES

- 1 All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- 2 Mark schemes should be applied positively.
- 3 All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e if the answer matches the mark scheme. Note that in some cases a correct answer alone will not score marks unless supported by working; these situations are made clear in the mark scheme. Examiners should be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- 4 Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- 5 Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.
- 6 Mark schemes will award marks for the quality of written communication (QWC).  
The strands are as follows:
  - i) *ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear*  
Comprehension and meaning is clear by using correct notation and labelling conventions.
  - ii) *select and use a form and style of writing appropriate to purpose and to complex subject matter*  
Reasoning, explanation or argument is correct and appropriately structured to convey mathematical reasoning.
  - iii) *organise information clearly and coherently, using specialist vocabulary when appropriate.*  
The mathematical methods and processes used are coherently and clearly organised and the appropriate mathematical vocabulary used.

### **With working**

If there is a wrong 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.

If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.

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, and discuss each of these situations with your Team Leader.

If there is no answer on the answer line then check the working for an obvious answer.

Partial answers shown (usually indicated in the ms by brackets) can be awarded the method mark associated with it (implied).

Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks; transcription errors may also gain some credit. Send any such responses to review for the Team Leader to consider.

If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

### **8 Follow through marks**

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, 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.

### **9 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: e.g. incorrect cancelling of a fraction that would otherwise be correct

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.

### **10 Probability**

Probability answers must be given as fractions, percentages or decimals. 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 answer is given on the answer line using both incorrect and correct notation, award the marks.

If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

### **Linear equations**

Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated 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).

### **12 Parts of questions**

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

### **13 Range of answers**

Unless otherwise stated, when an answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and includes all numbers within the range (e.g 4, 4.1)

### **14** The detailed notes in the mark scheme, and in practice/training material for examiners, should be taken as precedents over the above notes.

#### **Guidance on the use of codes within this mark scheme**

M1 – method mark for appropriate method in the context of the question  
A1 – accuracy mark  
B1 – Working mark  
C1 – communication mark  
QWC – quality of written communication  
oe – or equivalent  
cao – correct answer only  
ft – follow through  
sc – special case  
dep – dependent (on a previous mark or conclusion)  
indep – independent  
isw – ignore subsequent working

PAPER: 1MA0_1F					
Question		Working	Answer	Mark	Notes
1	(a)		<input type="checkbox"/> <input type="checkbox"/>	1	B1 for 6 TVs drawn for Sunday
	(b)		37	2	M1 for attempt to find the total for 4 days (eg 8+10+13+6) by adding individual days with at least 3 days correct A1 cao
2	(a)		50	1	B1 cao
	(b)		$\frac{3}{8}$	1	B1 cao
	(c)		2 squares shaded	1	B1 cao
	(d)		$\frac{2}{8}$ and $\frac{5}{20}$	2	B2 for both correct (B1 for one correct)
3	(a)		37.4	1	B1 cao
	(b)		6500	2	M1 for sight of 3500 or attempt to count up from 3500 on scale or count down from 10000 on scale or 10000 – “3500” [“3500” in the range 3000 – 4000] or an answer which includes the digits 65 A1 cao
4	(a)		Gulf	1	B1 cao
	(b)		Avris	1	B1 cao
	(c)		19200	1	B1 cao

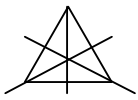
PAPER: 1MA0_1F				
Question	Working	Answer	Mark	Notes
5	(a)	Parallel lines marked	1	B1 for parallel lines marked
	(b)	Right angle	1	B1 for right angle marked
	(c)	35	1	B1 for 33 - 37
6	(a)	11	1	B1 cao
	(b)	+ 8 or $\times 3$	1	B1 for + 8 or $\times 3$
7	(a)	08 12	1	B1 cao
	(b)	6	2	M1 for evidence of counting on 15 minutes from 0920, could be shown with table A1 cao
	(c)	17 35	1	B1 cao
8	(a)(i)	likely	2	B1 cao
	(ii)	Mark at 0		B1 cao
	(b)	Mark at $\frac{1}{2}$	1	B1 cao
	(c)	(1, H), (2, H), (3, H), (4, H), (5, H); (6, H), (1, T), (2, T), (3, T), (4, T), (5, T), (6, T) combinations shown	2	M1 for at least 4 correct outcomes A1 for all 12 correct outcomes with no incorrect outcomes and no repeats

PAPER: 1MA0_1F				
Question	Working	Answer	Mark	Notes
9	(a)	4.40	3	<p>M1 for a method to find the cost for one delivery method eg <math>19 + 7 \times 0.7(0)</math> (= 23.9(0)) or <math>16 + 7 \times 0.5(0)</math> (= 19.5(0)) M1 for a method to find the cost for <b>both</b> delivery methods <b>and</b> attempting to subtract eg <math>23.90 - 19.50</math> A1 cao Accept 4.4</p> <p><b>OR</b></p> <p>M1 for method to find the difference between the two delivery costs eg <math>19 - 16</math> (=3) and <math>70 - 50</math> (=20) M1 for a method to find the “cost” using the differences eg “3” + <math>7 \times</math> “20” A1 cao Accept 4.4</p>
	(b)	23	3	<p>M1 for <math>25 - 16</math> (= 9) M1 for a method to divide “9” by 0.50 (= 18) A1 cao</p> <p><b>OR</b></p> <p>M1 for starting with 16 and a method to add on 0.50s M1 for starting with 16 and adding on 0.50s to within 0.50 of 25 A1 cao</p>
10	(a)	5.8 to 6	1	B1 for an answer in the range 5.8 to 6
	*(b)	No (supported)	3	<p>M1 for a correct conversion of any amount (lb to kg or kg to lb) excepting that in (a) M1 (dep M1) for a complete method to convert 100 kg (from <math>25 \times 4</math>) to lb (to compare with 200 lb) or to convert 50 lb (from <math>200 \div 4</math>) to kg (to compare with 25 kg) C1 for “no” and a comparison with a converted weight of 212 - 228 pounds or 88 - 94 kg</p>



PAPER: 1MA0_1F																												
Question	Working	Answer	Mark	Notes																								
11	(a)	2, 1	1	B1 cao																								
	(b)	-2, 3	1	B1 cao																								
	(c)	Point marked	1	B1 for point marked at (-3, -1)																								
	(d)	Line $x = 3$ drawn	1	B1 for line $x = 3$ drawn																								
12		13 -1 13 26	4	B1 cao B1 cao B1 cao B1 cao SC: If B0 scored award M1 for appropriate working shown																								
13	(a)	9	1	B1 cao																								
	(b)	50	1	B1 cao																								
*14	<table border="1"> <thead> <tr> <th colspan="2">g</th> <th colspan="2">kg</th> </tr> </thead> <tbody> <tr> <td><b>2000</b></td> <td>600</td> <td>2</td> <td><b>0.6</b></td> </tr> <tr> <th colspan="2">mm</th> <th colspan="2">cm</th> </tr> <tr> <td><b>400</b></td> <td>450</td> <td>40</td> <td><b>45</b></td> </tr> <tr> <td><b>210</b></td> <td>350</td> <td>21</td> <td><b>35</b></td> </tr> <tr> <td><b>75</b></td> <td>80</td> <td>7.5</td> <td><b>8</b></td> </tr> </tbody> </table>	g		kg		<b>2000</b>	600	2	<b>0.6</b>	mm		cm		<b>400</b>	450	40	<b>45</b>	<b>210</b>	350	21	<b>35</b>	<b>75</b>	80	7.5	<b>8</b>	Yes with correct conversions	4	M1 for using $1 \text{ kg} = 1000 \text{ g}$ eg sight of 2000 or 0.6 M1 for using $1 \text{ cm} = 10 \text{ mm}$ eg sight of 400, 210, 25, 45, 35 or 8 M1 for evidence of considering three boxes eg $2.5 \times 3 (=7.5)$ or reducing the 2kg parcel to compare with one box C1 for "yes" with correct conversions of dimensions and weight NB: Candidates can work in cm or in mm and in kg or g
g		kg																										
<b>2000</b>	600	2	<b>0.6</b>																									
mm		cm																										
<b>400</b>	450	40	<b>45</b>																									
<b>210</b>	350	21	<b>35</b>																									
<b>75</b>	80	7.5	<b>8</b>																									
15	(a)	1	1	B1 cao																								
	(b)	54	2	M1 $fx$ (at least 3 seen from $0 \times 2, 1 \times 12, 2 \times 8, 3 \times 6, 4 \times 2$ ) or for an answer of 56 A1 cao																								

PAPER: 1MA0\_1F

Question		Working	Answer	Mark	Notes
16	(a)			2	M1 for any 1 correct line of symmetry, allow extras A1 for all 3 lines and no extras
	(b)		Triangle drawn	2	M1 for intersecting arcs of radii 6cm or an accurate triangle with no arcs A1 for a fully correct triangle with arcs
	(c)		48	2	M1 for $24 \div 3 (=8)$ A1 cao
	(d)		Tessellation	2	B2 for correct tessellation (at least 5 more shapes) (B1 for at least 4 shapes, including initial shape, correctly tessellating)
17	(a)		-7	2	M1 for $2 \times 4 + 3 \times -5$ or $8 - 15$ oe A1 cao
	(b)		36	1	B1 cao
*18			$x = 115^\circ$ with complete reasons	3	M1 for angle $CEB = 180 - 25 - 90 (= 65)$ or angle $ABE = 90 - 25 (= 65)$ or for $x = 25 + 90$ A1 for 115 C1 (dep on M1) for full reasons, appropriate to their given method e.g. <u>angles in a triangle add up to <math>180^\circ</math></u> <b>and</b> <u>angles on a straight line add up to <math>180^\circ</math></u> e.g. the <u>exterior angle</u> of a triangle is <u>equal</u> to the sum of the <u>interior opposite angles</u> e.g. <u>angles in a quadrilateral add up to <math>360^\circ</math></u> e.g. <u>alternate angles</u> are equal

PAPER: 1MA0_1F					
Question		Working	Answer	Mark	Notes
19	(a)		16	2	M1 for $360 \div 45$ oe or $2 \times 8$ or Roach identified as 6 or Bream identified as 8 A1 cao
	(b)		No	1	B1 for 'No' and correct explanation, e.g. the pie charts only show that the proportions OR explains that she could be correct if the total number of fish is the same in each chart OR explains that we don't know if she is correct because the total number of fish is not known.
20			18	3	M1 for $\frac{1}{10} \times 60 (= 6)$ or $\frac{1}{10} + \frac{3}{5}$ or " $\frac{7}{10}$ " oe M1 for $\frac{3}{5} \times 60 (= 36)$ or $1 - \frac{7}{10} (= \frac{3}{10})$ or " $\frac{7}{10}$ " $\times 60 (= 42)$ A1 cao
21			12	3	M1 for a method to find volume of a cuboid, eg. $2 \times 10 \times 15 (= 300)$ or $5 \times 5 \times x (= 25x)$ M1 (dep) for " $300 \div 25$ " oe A1 cao  OR  M1 for $10 \div 5 (= 2)$ and $15 \div 5 (= 3)$ or $10 \div 5 (= 2)$ and $2 \div 5 (= 0.4)$ M1 (dep) for $2 \times "2" \times "3"$ or $15 \times "2" \times "0.4"$ A1 cao

PAPER: 1MA0_1F				
Question	Working	Answer	Mark	Notes
22		Question	2	B1 for a question with a time frame for frequency of use B1 for at least 3 correctly labelled response boxes (non-overlapping and exhaustive) [Do not allow inequalities in response boxes]
23	(a)	$2(4x + 3)$	1	B1 cao
	(b)	$y(y - 2)$	1	B1 cao
	(c)	$p^5$	2	M1 for $\frac{p^{3+4}}{p^2} \left( = \frac{p^7}{p^2} \right)$ or $p^{3-2} \times p^4 (= p^1 \times p^4)$ or $p^3 \times p^{4-2} (= p^3 \times p^2)$ A1 cao

PAPER: 1MA0_1F																																				
Question	Working	Answer	Mark	Notes																																
*24	<p>1195 4780 5975</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">9</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">4</td> <td style="text-align: center;">0</td> <td style="text-align: center;">6</td> </tr> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">9</td> <td style="text-align: center;">7</td> <td style="text-align: center;">5</td> <td style="text-align: center;">2</td> </tr> </table> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">200</td> <td style="text-align: center;">30</td> <td style="text-align: center;">9</td> </tr> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">4000</td> <td style="text-align: center;">600</td> <td style="text-align: center;">180</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">1000</td> <td style="text-align: center;">150</td> <td style="text-align: center;">45</td> </tr> </table> <p><math>4000 + 1000 + 600 + 150 + 180 + 45 = 5975</math></p>		2	3	9			0	4	0	6		1	0	1	5	5	9	7	5	2		200	30	9	20	4000	600	180	5	1000	150	45	Kirsty's Plants with correct calculations	5	<p>M1 for complete method with relative place value correct. Condone 1 multiplication error, addition not necessary. M1 (dep) for addition of all the appropriate elements of the calculation or digits 5975 M1 for a complete method to find 120% of £52.50 A1 for 59.75 and 63(.00) C1 (dep on M2) for correct conclusion for their figures OR M1 for the start of a method to divide £52.50 by 25, eg. 2 rem 2 M1 for a complete method to divide £52.50 by 25, condone one arithmetic error, or digits 21 M1 for a complete method to find 120% of "£2.10" A1 for 2.52 C1 (dep on M2) for correct conclusion for their figures OR M1 for a complete method to find 120% of £52.50 M1 for the start of a method to divide "63" by 25, eg. 2 rem 13 M1 for a complete method to divide "63" by 25, condone one arithmetic error, or digits 252 A1 for 2.52 C1 (dep on M2) for correct conclusion for their figures</p>
	2	3	9																																	
	0	4	0	6																																
	1	0	1	5																																
5	9	7	5	2																																
	200	30	9																																	
20	4000	600	180																																	
5	1000	150	45																																	
25	(a)	Relationship	1	B1 for a description of a dynamic relationship eg "The older the car the lower the price" or "The newer the car the greater the price" oe (accept negative correlation)																																
	(b)	6400 to 7000	2	B2 for an answer in the range 6400 to 7000 OR M1 for a single straight line segment with negative gradient that could be used as a line of best fit or vert. line from 3.5 or a point plotted at (3.5, y), y in the range 6400 to 7000 A1 for 6400 to 7000																																

PAPER: 1MA0_1F				
Question	Working	Answer	Mark	Notes
26	<p>40, 80, 120 15, 30, 45, 60, 75, 90, 105, 120</p> <p><math>40 = 2 \times 2 \times 2 \times 5</math> <math>15 = 3 \times 5</math></p>	3 and 8 or any multiple of 3, 8	3	<p>M1 for multiples of both 40 and 15 (at least 2 of each shown but condone errors if intention is clear) or <math>40 \times 15</math></p> <p>M1 (dep on M1) for a complete method to find a common multiple of 40 and 15, eg sight of 120, 240, 600, condoning one arithmetic error in any lists of multiples shown</p> <p>A1 for 3, 8 or any multiple of 3, 8</p> <p><b>OR</b></p> <p>M1 for factors 2,2,2,5 and factors 3,5</p> <p>M1 (dep on M1) for a complete method to find a common multiple of 40 and 15</p> <p>A1 for 3, 8 or any multiple of 3, 8</p>
*27		Has enough (with evidence)	5	<p>M1 for splitting the shape (or showing recognition of the “absent” triangles) and using a method to find the area of one shape</p> <p>M1 for a complete method to find the total area, (= <math>9 \text{ m}^2</math>)</p> <p>M1 (dep M1) for a method to find the number of packs required from their total area, eg. “9” <math>\div 2 = 4.5</math> rounded up to 5</p> <p>M1 for a method to find 75% of 24.80 or 75% of the cost of their total number of packs, eg. <math>24.80 \times 5 \times \frac{75}{100}</math> (= 93) or <math>24.80 \times \frac{75}{100}</math> (= 18.6)</p> <p>C1 for a conclusion supported by fully correct answers, eg. showing <math>9 \text{ (m}^2\text{)}</math>, 5 (packs) and 93 or 7 (from <math>100 - 93</math>)</p> <p><b>OR</b></p> <p>M1 for method to find 75% of £24.80, eg. <math>24.80 \times \frac{75}{100}</math> (= 18.6)</p> <p>M1 for method to find total number of packs Mary can buy, eg. <math>100 \div "18.60" = 5.3\dots</math> truncated to 5 or 10 (<math>\text{m}^2</math>)</p> <p>M1 for finding area of one relevant shape or showing how one pack (<math>2 \text{ m}^2</math>) can fit in the diagram</p> <p>M1 (dep on previous M1) for complete method to show that 5 packs can cover the floor</p> <p>C1 for a conclusion supported by fully correct answers, showing the capacity (10) greater than total area (9)</p>

## Modifications to the mark scheme for Modified Large Print (MLP) papers.

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:  $\pm 5^\circ$

Measurements of length:  $\pm 5$  mm

<b>PAPER: 1MA0_1F</b>			
<b>Question</b>		<b>Modification</b>	<b>Notes</b>
Q1	(a)	Diagram enlarged. The key has been moved above the diagram. Braille only: rectangle has been divided into 4 in the diagram.	B1 for 6 TVs drawn for Sunday
Q1	(b)	Diagram enlarged. The key has been moved above the diagram. Braille only: rectangle has been divided into 4 in the diagram.	M1 for attempt to find the total for 4 days (eg 8+10+13+6) by adding individual days with at least 3 days correct A1 cao
Q2	(a)	All diagrams enlarged. Shading changed to dotted shading.	B1 cao
Q2	(b)	All diagrams enlarged. Shading changed to dotted shading.	B1 cao
Q2	(c)	All diagrams enlarged. Shading changed to dotted shading.	B1 cao
Q2	(d)	All diagrams enlarged. Shading changed to dotted shading. 'some' replaced by 'five'.	B2 for both correct (B1 for one correct)

**PAPER: 1MA0\_1F**

<b>Question</b>		<b>Modification</b>	<b>Notes</b>
Q3	(a)	All diagrams enlarged.	B1 cao
Q3	(b)	All diagrams enlarged.	M1 for sight of 3500 or attempt to count up from 3500 on scale or count down from 10000 on scale or $10000 - "3500"$ ["3500" in the range 3000 – 4000] or an answer which includes the digits 65 A1 cao
Q4	(a)	Final column removed from the table.	B1 cao
Q4	(b)	Final column removed from the table.	B1 cao
Q4	(c)	Final column removed from the table.	B1 cao
Q5	(a)	Diagram enlarged. Angle arc put inside the angle size.	B1 for parallel lines marked
Q5	(b)	Diagram enlarged. Angle arc put inside the angle size.	B1 for right angle marked
Q5	(c)	Diagram enlarged. Angle arc put inside the angle size.	B1 for 33 - 37
Q6	(a)	Diagrams enlarged.	B1 cao
Q6	(b)	Diagrams enlarged. Braille only: (i) placed in the space.	B1 for $+ 8$ or $\times 3$
Q8	(a)(i)	Candidates asked to write the word instead of circling. Diagrams enlarged.	B1 cao



**PAPER: 1MA0\_1F**

Question		Modification	Notes
Q10	(a)	13 pounds changed to 35 pounds. Diagram enlarged. Label for horizontal axis left aligned. Label for vertical axis placed above the axis. Right axis is labelled.	B1 for an answer of 16
Q10	*(b)	Diagram enlarged. Label for horizontal axis left aligned. Label for vertical axis placed above the axis. Right axis is labelled.	M1 for a correct conversion of any amount (lb to kg or kg to lb) excepting that in (a) M1 (dep M1) for a complete method to convert 100 kg (from $25 \times 4$ ) to lb (to compare with 200 lb) or to convert 50 lb (from $200 \div 4$ ) to kg (to compare with 25 kg) C1 for “no” and a comparison with a converted weight of 212 - 228 pounds or 88 - 94 kg
Q11	(a)	Grid enlarged. Crosses changed to filled in circles.	B1 cao
Q11	(b)	Grid enlarged. Crosses changed to filled in circles.	B1 cao
Q11	(d)	Grid enlarged. Crosses changed to filled in circles.	B1 for line $x = 3$ drawn
Q11	(c)	Grid enlarged. Crosses changed to filled in circles. 'with a cross (x)' removed.	B1 for point marked at $(-3, -1)$

PAPER: 1MA0_1F			
Question		Modification	Notes
Q12		Wording added: 'There are four spaces to fill.'	B1 cao B1 cao B1 cao B1 cao SC: If B0 scored award M1 for appropriate working shown
Q13	(a)	MLP only: x changed to y.	B1 cao
Q14		2 models provided for all candidates. MLP also have diagrams for Diagrams A and B. For third diagram, all have a diagram showing the side view and the end view . Wording is adjusted.	M1 for using 1 kg = 1000 g eg sight of 2000 or 0.6 M1 for using 1 cm = 10 mm eg sight of 400, 210, 25, 45, 35 or 8 M1 for evidence of considering three boxes eg $2.5 \times 3 (=7.5)$ or reducing the 2kg parcel to compare with one box C1 for "yes" with correct conversions of dimensions and weight NB: Candidates can work in cm or in mm and in kg or g
Q15	(a)	MLP only: Frequency column is widened to allow for working.	B1 cao
Q15	(b)	MLP only: Frequency column is widened to allow for working.	M1 $fx$ (at least 3 seen from $0 \times 2$ , $1 \times 12$ , $2 \times 8$ , $3 \times 6$ , $4 \times 2$ ) or for an answer of 56 A1 cao

PAPER: 1MA0_1F		
Question	Modification	Notes
Q16	(a) Diagram is enlarged.	M1 for any 1 correct line of symmetry, allow extras A1 for all 3 lines and no extras
Q16	(b) Diagram is enlarged. 6 cm changed to 8 cm. Base line given on the diagram.	M1 for intersecting arcs of radii 8cm or an accurate triangle with no arcs A1 for a fully correct triangle with arcs
Q16	(c) Diagram is enlarged. Diagrams enlarged.	M1 for $24 \div 3 (=8)$ A1 cao
Q16	(d) Diagram is enlarged. Grid enlarged. Dots are 3 cm apart. Cut out shape provided for all. Braille candidates have extra shapes.	B2 for correct tessellation (at least 5 more shapes) (B1 for at least 4 shapes, including initial shape, correctly tessellating)
Q17	(a) MLP only: a changed to e, b changed to f.	M1 for $2 \times 4 + 3 \times -5$ or $8 - 15$ oe A1 cao
Q18	Diagram enlarged. Angle arc put inside the angle size. Wording added: 'Angle DEB is marked x.'	M1 for angle $CEB = 180 - 25 - 90 (= 65)$ or angle $ABE = 90 - 25 (= 65)$ or for $x = 25 + 90$ A1 for 115 C1 (dep on M1) for full reasons, appropriate to their given method e.g. <u>angles in a triangle</u> add up to <u>180°</u> <b>and</b> <u>angles on a straight line</u> add up to <u>180°</u> e.g. the <u>exterior angle</u> of a triangle is <u>equal</u> to the sum of the <u>interior opposite angles</u> e.g. <u>angles in a quadrilateral</u> add up to <u>360°</u> e.g. <u>alternate angles</u> are equal

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Question		Modification	Notes
Q19	(a)	Diagrams enlarged.	M1 for $360 \div 45$ oe or $2 \times 8$ or Roach identified as 6 or Bream identified as 8 A1 cao
Q19	(b)	Diagrams enlarged.	B1 for 'No' and correct explanation, e.g. the pie charts only show that the proportions OR explains that she could be correct if the total number of fish is the same in each chart OR explains that we don't know if she is correct because the total number of fish is not known.
Q21		2 models provided for all candidates. MLP also have diagrams. In text, wording is added to give the dimensions of the first cheese.	M1 for a method to find volume of a cuboid, eg. $2 \times 10 \times 15 (= 300)$ or $5 \times 5 \times x (= 25x)$ M1 (dep) for " $300$ " $\div$ " $25$ " oe A1 cao  OR  M1 for $10 \div 5 (= 2)$ and $15 \div 5 (= 3)$ or $10 \div 5 (= 2)$ and $2 \div 5 (= 0.4)$ M1 (dep) for $2 \times "2" \times "3"$ or $15 \times "2" \times "0.4"$ A1 cao
Q23	(a)	MLP only: x changed to y.	B1 cao

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Question		Modification	Notes
Q25	(a)	Diagram enlarged. Crosses changed to filled in circles. Label for horizontal axis left aligned. Label for vertical axis placed above the axis. Right axis is labelled.	B1 for a description of a dynamic relationship eg “The older the car the lower the price” or “The newer the car the greater the price” oe (accept negative correlation)
Q25	(b)	Diagram enlarged. Crosses changed to filled in circles. Label for horizontal axis left aligned. Label for vertical axis placed above the axis. Right axis is labelled.	B2 for an answer in the range 6400 to 7000 OR M1 for a single straight line segment with negative gradient that could be used as a line of best fit or vert. line from 3.5 or a point plotted at (3.5, y), y in the range 6400 to 7000 A1 for 6400 to 7000
Q27		Diagram enlarged. Measurement lines for 1 metre and 2.2 metres are removed. Dashed measurement line for 3.4 metres.	M1 for splitting the shape (or showing recognition of the “absent” triangles) and using a method to find the area of one shape M1 for a complete method to find the total area, (= 9 m <sup>2</sup> ) M1 (dep M1) for a method to find the number of packs required from their total area, eg. “9” ÷ 2 = 4.5 rounded up to 5 M1 for a method to find 75% of 24.80 or 75% of the cost of their total number of packs, eg. $24.80 \times 5 \times \frac{75}{100}$ (= 93) or $24.80 \times \frac{75}{100}$ (= 18.6) C1 for a conclusion supported by fully correct answers, eg. showing 9 (m <sup>2</sup> ), 5 (packs) and 93 or 7 (from 100 – 93) <b>OR</b> M1 for method to find 75% of £24.80, eg. $24.80 \times \frac{75}{100}$ (= 18.6) M1 for method to find total number of packs Mary can buy, eg. $100 \div "18.60" = 5.3....$ truncated to 5 or 10 (m <sup>2</sup> ) M1 for finding area of one relevant shape or showing how one pack (2 m <sup>2</sup> ) can fit in the diagram M1 (dep on previous M1) for complete method to show that 5 packs can cover the floor C1 for a conclusion supported by fully correct answers, showing the capacity (10) greater than total area (9)





