

Paper 1MA1: 1F			
Question	Working	Answer	Notes
1		0.1, 0.106, 0.16, 0.61	B1
2		$\frac{37}{1000}$	B1
3		39	B1
4		1, 2, 4, 5, 10, 20	M1 for at least 3 factors  A1 for all factors with no additions
5		17	P1 start to process information eg. $130 \div 8$ or repeated subtraction from 130 or repeated addition  A1 16.25 or 16 remainder 2 or 128 or 136  C1 allow ft - interprets answer to round up to integer value
6 (i)		$1 \frac{1}{2}$ × at $\frac{1}{2}$	B1
(ii)		$4 \frac{2}{3}$ × at $\frac{2}{3}$	B1

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7		7.50	M1 $60 \div 8$ A1 accept 7.5
8		12	M1 M1 for $0.15 \times 80$ or $8 + 4$ A1 cao
9		$1 \frac{1}{4}$	B1 $1 \frac{1}{4}$ or $\frac{5}{4}$
10		$2 \frac{2}{7}$	B1
11		6	M1 for starting to list combinations A1 cao
12 (a)		18	M1 Evidence of interpretation of pattern, eg. further diagrams drawn or numerical sequence for numbers of triangles 6, 8, 10 etc A1
(b)		No with reason	C1 No with reason eg. No, pattern number 6 will have 7 squares; always one more square than pattern number

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13 (a)		2000	P1 Evidence of estimate eg. 400 or 20 used in calculation P1 complete process to solve problem A1
(b)		Overestimate with reason	C1 ft from (a) eg. overestimate as two numbers rounded up
14 (a)		5	B1 For apples shown as 'half' ie 180° on pie chart
(b)		Correct pie chart with labels	C1 All angles calculated correctly (Angles of 180°, 80°, 100°) <b>or</b> pie chart with correct angles C1 Fully correct pie chart with labels of apple, pear and plum
15		Correct diagram with layout and lengths	M1 for changing to consistent units eg. $1000 \div 10$ or $40 \times 10$ M1 for interpreting information and a process to fit tiles in floor area eg. may be seen in a sketch or a calculation C1 for a diagram to communicate a correct layout with lengths clearly identified
16		loss (supported by correct figures)	P1 process to find total spent eg. $20 \times 7 (=140)$ P1 complete process to find profit from full price oranges eg. $\frac{2}{5} \times 25 \times 20 \times 40 (= 8000)$ P1 complete process to find profit from reduced price oranges eg. $50 \times \left( \frac{3}{5} \times 25 \times 20 \right) \div 3 (=5000)$ P1 complete process to find total income with consistent units A1 loss with £10 <b>or</b> -£10 <b>or</b> £130 <b>and</b> £140

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17 (a)		42, 58 39, 3, 53, 5	C1 starts to interpret information eg. one correct frequency C1 continue to interpret information C1 communicates all information correctly
(b)		$\frac{5}{58}$	M1 ft for $\frac{a}{58}$ with $a < 58$ or $\frac{5}{b}$ with $b > 5$ A1 ft from (a)
18 (a)		$\frac{17}{35}$	M1 for common denominators with at least one numerator correct A1
(b)		$\frac{20}{9}$	M1 for $\frac{5}{3} \times \frac{4}{3}$ or $\frac{20}{12} \div \frac{9}{12}$ A1
19		7	M1 Correct method to isolate terms in $x$ A1
20		75	P1 for start to process eg. linking 20% with $15$ or $100 \div 5 (=20)$ A1

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21		32.968	M1 for correct method (condone one error) A1 for digits 32968 A1 ft (dep M1) for correct placement of decimal pt
22		$m^2 + 10m + 21$	M1 for at least 3 terms out of a maximum of 4 correct from expansion A1
23		152	M1 Start to method $ABD = 38^\circ$ and $BAD$ or $DBC$ or $DCB = 38^\circ$ M1 $ADB$ or $BDC = 180 - 2 \times 38 (=104)$ A1 for 152 with working
24 (a)		48	P1 start to process eg. $3 \times 80 (=240)$ P1 $'240' \div 5$ A1
(b)			C1 eg. she may drive a different distance and therefore her average speed could be different

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25		28	<p>P1 Process to start to solve problem eg. <math>\frac{3}{5} \times 40</math> or divide any number in the ratio 3:2</p> <p>P1 Second step in process to solve problem eg. <math>\frac{2}{5} \times 10</math> or find number of males/females under 25 for candidate's chosen number for complete process</p> <p>A1</p>
26		Correct sketch	<p>C1 interprets diagram eg. draw a solid shape with at least two correct dimensions</p> <p>C1 draws correct prism with all necessary dimensions.</p>
27		400	<p>P1 Start to process eg. <math>1200 \div 60</math></p> <p>A1 400 or (accept number of whole pizzas eg. <math>400 \div 4 = 100</math> with 4 people per pizza)</p> <p>C1 Eg. Assumption that sample is representative of population – it may not be all 1200 people are going to the party – need less pizza if they don't, assume 4 people per pizza – if different may need more/fewer pizzas</p>

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28			$x = 21, y = 50$	<p>P1 process to start solving problem eg. form an appropriate equation</p> <p>P1 complete process to isolate terms in <math>x</math></p> <p>A1 for <math>x = 21</math></p> <p>P1 complete process to find second variable</p> <p>A1 <math>y = 50</math></p>
29			Rotation of $90^\circ$ clockwise about $(0,0)$	<p>M1 For two of 'rotation', <math>(0,0)</math>, <math>90^\circ</math> clockwise oe</p> <p>A1 Correct transformation</p>
30			$\begin{pmatrix} -2 \\ 16 \end{pmatrix}$	<p>CI For <math>\begin{pmatrix} 4 \\ 2 \end{pmatrix} - 2 \begin{pmatrix} 3 \\ -7 \end{pmatrix}</math></p> <p>CI</p>