Paper 1MA1: 1F				
Question	**Working**	**Answer**	**Mark**	**Notes**
8 **Q1**		4 × 8 rectangle drawn	M1 A1	Draws a rectangle with side lengths in the ratio 2:1 **or** lists possible dimensions in the ratio 2:1 **or** gives two numbers which multiply to 32 for correct diagram on grid

Paper: 1MA1/1F				
Question	**Working**	**Answer**	**Mark**	**Notes**
15 **Q2**		13.5	P1 P1 P1 A1	process shown to find the area of the triangle e.g. ½ × 8 × 9 (=36) for calculating 6 × (area) (=216) for process shown of dividing their area of rectangle by 16 (oe) oe

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
17 **Q3**	6	P1 P1 A1	for a process to set up an equation in x, eg $\frac{1}{2} \times 3x \times 3x = 162$ for a process to simplify to x^2 eg $x^2 = 162 \times 2 \div 9$ or $x^2 = 36$ cao	Must be a complete equation Can ft their equation if a quadratic

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
14 (a)	Explanation	C1	for a correct explanation, eg that he has found the area not perimeter **Acceptable examples** He has found the area (not perimeter) He should have added The perimeter is 7+3+7+3 (=20) oe He did base×height He has timesed (not added) **Not acceptable examples** He has worked it out wrong He should have squared it He should have done 14×6 **or** 7×3×7×3 **or** 7×3 twice then add them He didn't include the top or the other side He should have doubled it It should be P=7×3 **or** he has done the sum not found the answer	Any incorrect statement as part of a correct response can be ignored unless it contradicts the statement, eg, he found area but perimeter equals 10
Q4				
(b)	Explanation	C1	for correct explanation, eg that you cannot have a length of −2 **Acceptable examples** *x* cannot be negative Cannot have a negative length Has to be positive It is impossible Can't have −2(cm) (as a measurement) It has to be more than 0 **Not acceptable examples** You can have −2 Won't add to 180 He has a minus sign and the other sides have add signs It has to be a whole number or decimal there are no negative numbers to get a negative answer there is no cm after his answer It should be +2	Any incorrect statement as part of a correct response can be ignored unless it contradicts the statement.

Paper: 1MA1/2F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
13 **Q5**	10	P1 P1 A1	for starting the problem, 12 ÷ 6 (=2) for a complete process to find width "2" × 5 cao	The square of side 2 cm may be just seen on the diagram

Paper: 1MA1/2F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
15 **Q6**	3240	P1 P1 P1 A1 **ALTERNATIVE** P1 P1 P1 A1	for 90 × 60 (= 5400) **OR** 40 ÷ 100 × 90 (= 36) **OR** 40 ÷ 100 ×60 (= 24) for a process to work out area that is flowers eg. 40 ÷ 100 × "5400" (= 2160) **OR** "36" × 60 (= 2160) **OR** 90 × "24" (= 2160) for a full process to find the area that is grass eg. "5400" – "2160" (=3240) cao for 100 – 40 (= 60) (indep) for 90 × 60 (=5400) **OR** 90 × 60 ÷ 100 (= 54) or 60 × 60 ÷ 100 (= 36) for a full process to find the area that is grass eg. "60" ÷ 100 × "5400" (=3240) **OR** "54" × 60 (= 3240) or "36" × 90 (= 3240) cao	

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
13 **Q7**	34	M1 A1	for start to method, eg 10 – 4 (= 6) or 7 – 5 (= 2) **or** 10 + 7 + 4 + 5 (=26) **or** (10 + 7) × 2 cao	6, 2 may be seen on diagram

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
16 **Q8**	Triangle drawn	B2 (B1	for an isosceles triangle drawn with the product of the base and perpendicular height being 24, eg. 6 × 4 or 4 × 6 or 8 × 3 or 3 × 8 for any isosceles triangle drawn or for any triangle with 24 as the product of the base and the perpendicular height)	Accept triangle drawn in any orientation or drawn freehand.

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Question	**Working**	**Answer**	**Mark**	**Notes**
24 **Q9**		147	P1 P1 P1 A1 B1	starts process, eg uses x and $x + 7$ starts to work with at least 6 correct sides, may be on the diagram or in an expression (dep on previous P1) gives a correct expression for the perimeter, eg $x + x + 7 + x + 7 + x + 7 + x + x + 7 + x + 7 + x + 7$ or adds at least 6 correct sides and equates to 70 for width = 3.5 oe **and** length = 10.5 oe ft (dep P2) for correct area for their x

Paper: 1MA1/2F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
13 (a)	36	P1 A1	square root of 81 eg $\sqrt{81}$ **or** 9 **or** 9×4 cao	9 could be seen on the diagram
(b) **Q10**	12	M1 M1 A1	finding area of triangle eg ½ (16×9) (=72) equating with area of parallelogram eg [area of triangle] $\times 5 = 30 \times h$ **or** (h =) [area of triangle] $\times 5 \div 30$ **or** (h =) [area of triangle] $\div 30$ **or** sight of 2.4 cao	 [area of triangle] must be 72 or 144 or come from ½ (16×9) or 16×9

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Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
21 **Q11**	Triangle of area 18	M1	for a complete method to find area of trapezium eg $\frac{1}{2}(2 + 7) \times 4$ (= 18) **OR** for a triangle drawn of area 36 **OR** for a triangle that would give an area ft their area of trapezium	The value for the area of the trapezium must be clear for the ft to be checked.
		A1	for a triangle drawn of area 18 eg base = 6, height = 6 or base = 9, height = 4	Accept use of dimensions that are not whole numbers as long as the intention is clear

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Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
20 **Q12**	12.5	P1	starts to process the problem, eg assigns lengths of sides to squares **A** and **B** in the ratio 1 : 2 oe **and** calculates at least one area **OR** fits 4 of square **A** into square **B** **OR** for ratio of areas of squares eg 1 : 4 oe	May be seen in a diagram
		P1	for process to express relationship between area of shaded triangle and area of square B, eg 1 : 8, $\frac{1}{8}$ **OR** 0.125	May be seen in a diagram with figure given
		A1	for 12.5 oe	

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Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
28 **Q13**	8.5	P1 P1 P1 A1	for process to use the area of *PQRS* to find the length of *PQ,* eg $10y = 45$ **or** $45 \div 10$ (= 4.5) for process to use the perimeter of *ABCD*, eg $2x + 2 \times$ "4.5" = 26 **or** $26 - 2 \times$ "4.5" (= 17) **or** $26 \div 2$ (= 13) for process to use length of *BC* to find length of *AB*, eg solves $2x + 2 \times$ "4.5" = 26 **or** $(26 - 2 \times$ "4.5"$) \div 2$ **or** "13" – "4.5" for 8.5 **or** $8\frac{1}{2}$	Sets up equation for area Uses perimeter of *ABCD* Accept $\frac{17}{2}$

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Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
16 **Q14**	32	P1 P1 A1	for a process to work out the missing length eg 6 – 4 (=2) **or** for a process to work out the length of the base eg 4 + 6 (= 10) **OR** for finding total perimeter of 2 rectangles, eg 2(6 + 4 + 6+ 4) (= 40) **OR** for writing at least 5 figures correctly on the diagram for a process to work out the perimeter eg 4 + "2" + 6 + 4 + 6 + 4 + 6 **or** 20 + 20 – 2 × 4 **or** 16 + 14 + "2" cao SC B1 for 30	May be seen on the diagram May be seen in different forms

Paper: 1MA1/2F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
21 **Q15**	186.15	P1	for correctly finding the area of at least three sections, eg 3 of 11×7 (= 77), **or** 9×7 (= 63), **or** $\frac{1}{2} \times 11 \times 9$ (= 49.5), **or** $\frac{1}{4} \times \pi \times 7^2$ (= 38.4845..)	Note a trapezium for the rectangle and triangle should be classed as two areas. Accept figures rounded or truncated to 1 dp or better throughout.
		P1	for a method to find the number of bags required for one area or a combination of areas eg "77" ÷ 14 (= 5.5) **or** "227.9845.." ÷ 14 (= 16.2846…)	
		P1	for method to work out the total area for all four sections eg "77" + "63" + "49.5" + "38.4845…" (= 227.9845…) or adding the exact number of bags per section for all four sections eg "5.5" + "4.5" + "3.53.." + "2.74.." (= 16.28...)	This mark is dependent upon correct processes seen for all four sections.
		P1	for method to find the cost, eg integer number of bags × 10.95	integer number of bags must come from area ÷ 14 rounded up
		A1	cao	

Paper: 1MA1/2F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
24 (a)	19	P1	for process to find area available at festival B, eg 700 × 2000 (=1 400 000)	
		P1	for finding the area available per person at one festival, eg 80 000 ÷ 425 (= 188.23..) **or** [area] ÷ 6750 (= 207.40..)	Accept either number rounded eg 207 or 188
		P1	for finding the area available per person at both festivals, eg 80 000 ÷ 425 (= 188.23..) **and** [area] ÷ 6750 (= 207.40..)	Accept both numbers rounded eg 207 and 188
		A1	answer in the range 18.7 to 19.5	
(b) **Q16**	explanation	C1	for a valid statement relating to scale factor for area, **Acceptable examples** there are 10000 (cm^2) in 1 (m^2) because 1 m^2 is the same as 100 × 100 = 10000 cm^2 there are 2 side lengths that change from 1 m to 100 cm 300 ÷ 3 is 100 should use 100^2 300 ÷ 100 ÷ 100 = 0.03 3 × 100 × 100 = 30000 Because it's area not length. Because it's in m^2 not just metres He hasn't taken the squared sign into account **Not acceptable examples** there are 1000 cm in 1 m Callum is correct because ……. 300 ÷ 3 is 100 $3^2 = 9$ 300 × 300 = 90000 You have to square the number	

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
28 **Q17**	Complete chain of reasoning	M1	for (area of trapezium $TQRS$ =) $0.5 \times 4x \times (2x + 3x)$ or for (area of rectangle $TUVS$ =) $4x \times (3x + 5)$ $(= 12x^2 + 20x)$	Evidence for the award of marks may be seen on the diagram
		M1	for (area of trapezium $QUV\,R$ =) $4x(3x + 5) – 0.5 \times 4x \times (2x + 3x)$	Alternative methods may be seen.
		C1	for correct algebraic processing and simplification to the given form	
		M1	**Alternative 1** for (QU =) $3x + 5 – 2x$ $(= x + 5)$	
		M1	for (area of trapezium $QUVR$ =) $0.5 \times 4x \times$ (("$x + 5$") + 5) or $0.5 \times 4x \times (x + 10)$	
		C1	for correct algebraic processing and simplification to the given form	
		M1	**Alternative 2** for (area of triangle =) $0.5 \times (3x – 2x) \times 4x$ or for (area of rectangle =) $4x \times 5$	Accept x for $(3x – 2x)$
		M1	for (area of trapezium $QUVR$ =) "$0.5 \times (3x – 2x) \times 4x$" + "$4x \times 5$"	
		C1	for correct algebraic processing and simplification to the given form	