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GCSE MATHS

Geometry and measures

Edexcel 1MA1 | Subtopic collection Topic 47

Congruence and geometric proof

Foundation tier

Answers and examiner comments

20	2012-2020	Foundation
question groups	available papers	tier

Using this booklet

1. Answer numbers match the companion question booklet.
2. Follow the original question number on marking tables.
3. Examiner comments are included where available.

Name _____ **Date** _____

Some entries use full source marking material in an appendix. Any unavailable mark schemes are identified beside the relevant answer.

Question		Working	Answer	Mark	Notes
1	(a)		Octagon	1	B1 for octagon (allow incorrect spelling as long as the intention is clear)
	(b)		C and D	1	B1 both C and D (any order)
	(c)	1080 ÷ 8	135	2	M1 1080 ÷ 8 A1 cao

Question		Working	Answer	Mark	Notes
13	(a)		A and C	1	B1 for A and C (no extras)
	(b)		B or E	1	B1 for B or E (or both) (no extras)
	(c)		2	1	B1 cao

2	(a)		hexagon	1	B1 hexagon
	(b)		pentagon	1	B1 pentagon
	(c)		A and H	1	B1

Question		Working	Answer	Mark	Notes
6	(a)		reflection	1	B1 for correct reflection
	(b)		2	1	B1 for 2
	(c)		parallel lines	1	B1 for two parallel lines drawn
	(d)		A and F or B and D	1	B1 for A and F or B and D
*7			no and reason	3	M1 adding 6.25 km, 4 km 750 m and 8½ km M1 addition with consistent and correct use of units C1 for no and a correct comparison eg no and 19.5 (km) oe eg no and 0.5 (km) oe

Original question 12

The full source mark scheme begins on page 30. Use the original paper code, tier and question number shown above.

10	(a)		B, D	1	B1 cao
	(b)		F	1	B1 cao

3	(a)		hexagon	1	B1 for (regular) hexagon
	(b)		D, E	1	B1 cao
	(c)		A	1	B1 cao
	(d)		108	2	M1 for 540 ÷ 5 A1 cao

PAPER: 5MB3F_01

7	(a)		C and D	1	B1 cao
	(b)(i)		F	2	B1 cao
	(b)(ii)		2		B1 cao

2	(a)		A and E	1	B1 cao
	(b)		D	1	B1 cao

2	(a)		Pentagon	1	B1 cao
	(b)		7	1	B1 cao
	(c)		122	2	M1 for 360 – (56+87+95) A1 cao
	(d)		A and G	1	B1 cao

2	(a)		B and F	1	B1
	(b)		A	1	B1 cao

2	(a)		A and G	1	B1 cao
	(b)		F	1	B1 cao

3	(a)		A, D	1	B1 cao
	(b)		B	1	B1 cao

PAPER: 1MA0/1F					
Question		**Working**	**Answer**	**Mark**	**Notes**
*4	(a)		Statement (supported)	3	M1 for method to find total visitors for 2009 or for 2010 eg 185+108+133+231+124 (=781) or 177+120+128+230+118 (=773) A1 for 781 **and** 773 (or 781000 **and** 773000) C1 ft (dep on M1 and two totals) for clearly stating 2009 as their answer or ft from their two totals. OR M1 for method to find difference in the number of visitors for each castle eg 8, −12, 5, 1, 6 or −8, 12, −5, −1, −6 A1 for correct total net difference 8 or −8 C1 (dep M1 and a net difference) for clearly stating 2009 as their answer or ft from their net difference.
	(b)(i)		09 36	2	B1
	(ii)		54		B1 cao
	(c)		09 21	1	B1

3	(a)		B, G	1	B1 cao
	(b)		C	1	B1 cao
	(c)		Enlarged shape	2	M1 for drawing at least two sides correct length or a correct enlargement of scale factor other than 3 (excluding 1) A1 for fully correct enlargement

PAPER: 5MB3F/01

Question		Working	Answer	Mark	Notes
5	(a)		octagon	1	B1 cao
	(b)		reflection	1	B1 cao
	(c)		B & F	1	B1 cao
	(d)		G	1	B1 cao

15	(a)		Tessellation	2	B2 for at least 6 shapes tessellating correctly (no gaps) (B1 for at least 3 shapes tessellating)
	(b)		Triangle drawn	1	B1 cao

3	(a)		B and D	1	B1 cao
	(b)		E	1	B1 cao
	(c)		10	1	B1 cao

Paper: 1MA0/1F				
Question	**Working**	**Answer**	**Mark**	**Notes**
*4		60p	4	M1 for price of child ticket e.g. 8.40 ÷ 2 (= 4.20) M1 for a method to work out the total cost of the 2 adults e.g 2 × 8.40 (= 16.80) **or** of the 3 children e.g "4.20" × 3 (= 12.60) **or** of the whole family e.g. 2 × 8.40 + 3 × "4.20" (= 29.40) M1 for a complete method to work out the change e.g. 3 × £10 – "29.40" = (0.60) **or** 3 × £10 – (2 × 8.40 + 3 × "4.20") (= 0.60) C1 for change with correct money notation 60p or £0.60 (accept £0.60p) **NB** candidates may work in pence rather than pounds

9	(a)	Trapezium	B1	cao	
	(b)	C and D	B1	cao	Accept in either order.

29	(a)	6	M1	for stating a similar triangle relationship eg $\frac{AB}{PQ}=\frac{AC}{PR}=\frac{CB}{RQ}$ or equivalent set of similar triangle expressions or for substitution giving a fraction form for a scale factor eg $\frac{10}{15}\left(=\frac{2}{3}\right)$ or $\frac{15}{10}\left(=\frac{3}{2}\right)$ or $\frac{9}{15}\left(=\frac{3}{5}\right)$ or $\frac{15}{9}\left(=\frac{5}{3}\right)$	Accept any equivalent fractions or decimal equivalents given to at least 2 dp truncated or rounded
			A1	cao	
	(b)	2	P1	for showing understanding of the properties of congruent triangles by finding an unknown length using matching of two sides, eg *EG*, *KG* and 6, or *HG*, *FG* and 4 **or** matching corresponding angles eg *HEG* with *FKG* **and** *EHG* with *KFG*	Can be shown by any complete statements that are unambiguous Can be shown in working using algebraic statements, or given by unambiguous marking on the diagram to confirm the relationship.
			A1	cao	

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

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: ±5°
Measurements of length: ±5 mm

PAPER: 1MA1/1F			
Question		**Modification**	**Mark scheme notes**
6		Diagram enlarged. Key moved above and to the left of the diagram. Squares divided into four sections. Wording 'incomplete' added.	Standard mark scheme
9		Diagram enlarged. Wording added 'There are three angles marked 100°, 35° and x' Wording added 'marked'. Angles moved outside of the angle arcs and angle arcs made smaller.	Standard mark scheme
10		Diagram enlarged. Crosses changed to solid circles. Zero moved above the x axis. Wording added 'It shows the line BC on a coordinate grid.'	Standard mark scheme
13		In part (a) Braille only - change *a* and *b* to *m* and *n*. In part (b) MLP only - change *x* and *y* to *e* and *f*.	Standard mark scheme except for the letter changes indicated.
15		Diagram enlarged. Wording added 'It shows an incomplete frequency tree.' Braille only- label spaces (i) to (vi). In part (a) wording added 'There are six spaces to fill.'	Standard mark scheme

PAPER: 1MA1/1F			
Question		**Modification**	**Mark scheme notes**
16		Diagram enlarged. Right axis labelled. Axes labels moved to the left of the horizontal axis and above the vertical axis	Standard mark scheme
17		Question wording changed to 'When x−1 = 2 work out the value of 2x2.'	Standard mark scheme
18		Diagram enlarged. Angles moved outside of the angle arcs and angle arcs made smaller. Description of diagram added below the diagram. 'There are 480 students at school A. In the school A pie chart, 60° represents monkeys, x° represents tigers an x° represents lions.' 'There are 760 students at school B. In the school B pie chart, 90° represents tigers, 110° represents lions and 160° represents monkeys.'	Standard mark scheme
19		Diagram enlarged.	Standard mark scheme
21		Wording changed to 'Using the information work out the value of n.'	Standard mark scheme
23		P moved 1 cm to the left.	Standard mark scheme
24		Diagram enlarged. Wording added 'Angle BAC = 75° Angle ABC =51°.' Angles moved outside of the angle arcs and angle arcs made smaller.	Standard mark scheme

PAPER: 1MA1/1F			
Question		**Modification**	**Mark scheme notes**
27		North lines made 9 cm. Scale moved above the diagram. Changed the scale from '1 cm represents 4 km' to '1 cm represents 2 km.'	Standard mark scheme but note the scale change P1 for a process to work out the distance PQ, eg. 12×1.5 (= 18) P1 for the process to use the given scale eg. "18" ÷ 2 (= 9 cm) Award P3 for Q shown in the correct place on the diagram. A1 for distance in the range 20 to 23 A1 for bearing in the range 317 to 330
28		Diagram enlarged. Angles moved outside of the angle arcs and angle arcs made smaller. Wording added 'Three angles are marked $(2x)°$, $(3x)°$, 10°'	Standard mark scheme
29	(a)	Diagram enlarged. Wording added 'AC = 9 cm RQ = 10 cm.' Braille only - wording added 'Angle ACB is a right angle' and 'Angle PRQ is a right angle.'	Standard mark scheme
29	(b)	Diagram enlarged. Labels added to diagram: HG labelled as '4 cm' and HK labelled as '10 cm'. Wording added, 'HGE is a right angle, FGK is a right angle.'	Standard mark scheme

23	A & D	B1	cao	

Paper: 1MA1/1F

PMT

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Mark Scheme (Results)

March 2013

GCSE Mathematics (Linear) 1MA0
Foundation (Calculator) Paper 2F

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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. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.

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. Examiners should also 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 indicate within the table where, and which strands of QWC, are being assessed. 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 labeling 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.

7 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.
Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.
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.
Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

10 Probability

Probability answers must be given a 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.

11 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.

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)

Guidance on the use of codes within this mark scheme
M1 – method mark 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

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
1	(a)		7025	1	B1 cao
	(b)		Nine thousand four hundred (and) fifty	1	B1 for Nine thousand four hundred (and) fifty Accept 'nine thousand' written as '9 thousand', 'four hundred' written as '4 hundred' and 'fifty' written as '5 tens' or any mixture of these. Do not penalise poor spelling.
	(c)		29	1	B1 for 29 or twenty nine or 29.0
	(d)		7000	1	B1 for 7000 or 7 thousand or seven thousand
2	(a)		8, 10	1	B1 cao
	(b)		24	1	B1 cao
	(c)		reason	1	B1 for a valid reason that demonstrates the understanding that the number of triangles is twice the pattern number
3	(a)		240	1	B1 for 240
	(b)		arrow at 125°C	1	B1 for arrow (or line) pointing within a range of 122.5 to 127.5 (ie nearer to 125 than either 120 or 130) Use professional judgement.
	(c)		6.05 (pm)	1	B1 for 6.05 (pm) oe

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1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
4	(a)		Thursday	1	B1 cao
	(b)		7	1	B1 cao
	*(c)		Nick	3	M1 for the intention to add Dave's 4 times or Nick's 4 times A1 for 58 and 64 C1 (dep on M1 and two totals) for clearly stating Nick as their answer or ft from their two totals OR M1 for the intention to find the difference between the times on each of the 4 days A1 for 6 or −6 C1 (dep on M1 and a net difference) for clearly stating Nick as their answer or ft from their difference [SC: B1 for "Nick spent 6 minutes more than Dave on his phone" if M0 scored.]
5			9 squares shaded	1	B1 for any 9 squares shaded oe
6			66	2	M1 for a correct method to find the number of people on the bus if the 15 get off first. (= 57) A1 cao OR M1 for a correct method to find the number of people on the bus if the 9 get on first. (= 81) A1 cao OR M1 for a correct method to find the net change in the number of people on the bus (= 6 or −6) A1 cao

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
7		20 − 6.65 13.35 ÷ 3	4.45	3	M1 for a correct method to find the amount shared by B, R and T M1 (dep) for a correct method of dividing this amount by 3 A1 cao [SC: B1 for an answer of 17.78 (20 – 6.65 ÷ 3), if M0 scored, with or without working]
8	(a)		3, 6, 9, 3	3	B3 for a table showing all 4 correct frequencies in the correct place. (condone the absence of or any incorrect tallies) [(B2 for 2 or 3 correct tallies or 2 or 3 correct frequencies even in the wrong columns) (B1 for 1 correct tally or 1 correct frequency even in the wrong column)] [SC: B2 for 3/21 and 6/21 and 9/21 and 3/21 shown in the frequency column]
	(b)		3	1	B1 for 3 or ft table in (a)
9			Circle radius 5 cm drawn	1	B1 for a circle of radius 5 cm drawn (condone an alternative centre)

PMT

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
10	(i)		5,15 or 5,125 or 15,125 or 30,50 or 30,60 or 30,90 or 30,100 or 50,60 or 50,90 or 50,100 or 60,90 or 60,100 or 90,100	4	B1 for 2 numbers, from the list, whose sum is an even number.
	(ii)		60 or 100		B1 for 60 or 100 or both
	(iii)		5 or 15		B1 for 5 or 15 or both
	(iv)		125		B1 cao
11		9.39 × 10 24.30 × 3 + 9.39 93.90 − 82.29	£11.61	5	M1 for a correct method to find the most expensive way to buy the 10 cartridges (= 93.90) M1 for a correct method to find the least expensive way to buy the 10 cartridges (= 82.29) M1 (dep on M1 scored) for a correct method to find the difference between their least and their most expensive way, provided that both totals are for the cost of exactly 10 cartridges A1 for 11.61 B1 (indep) for correct units

PMT

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
12	(a)(i)		B and D	2	B1 cao
	(ii)		G and E		B1 for G and E (allow B and D if not in (i))
	(b)	3 + 3 + 3 + 2 + 2 +1 + 1 + 1	16	1	B1 cao
13	(a)		6am	1	B1 for 6am (accept −4) Do not accept 6 alone.
	(b)		3	1	B1 for 3 (allow − 3)
	(c)	−1−5	−6	2	M1 for −1 − 5 or intention to subtract 5 from -1 (may be shown on a diagram) A1 cao

PMT

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
*14			Yes + supporting work	4	M1 for adding the weights of all the ingredients (= 96) M1 (dep) for '96' × 8 A1 cao for 768 C1 (dep on M2), ft for a correct conclusion (yes or no) from a comparison of 750 (pots) with their '768' pots; units must be quoted [SC: B1 for 768 seen without working if M0M0 scored] **OR** M1 for adding the weights of all the ingredients (= 96) M1 for 750 ÷ 8 A1 cao for 93.75 C1(dep on M2), ft for a correct conclusion (yes or no) from a comparison of their weight of ingredients in one tank full '93.75' kg with '96' kg; units must be quoted [SC: B1 for 93.75 seen without working if M0M0 scored]] **OR** M1 for adding the weights of all the ingredients (= 96) M1 (dep) for 750 ÷ '96' A1 cao for 7.8125 C1(dep on M2), ft for a correct conclusion (yes or no) from a comparison of their number of pots, '7.8125' pots with 8 (pots); units must be quoted [SC: B1 for 7.8125 seen without working if M0M0 scored]]
15			85 29 54 **168** **93** 31 47 171 13 5 **9** **27** 191 **65** **110** 366	3	B3 for fully correct table (B2 for 3 or 4 or 5 correct entries, B1 for 1 or 2 correct entries)

PMT

1MA0_1F					
Question		**Working**	**Answer**	**Mark**	**Notes**
16	(a)(i)		5	3	B1 cao
	(ii)		8		B1 cao
	(iii)		5		B1 cao
	(b)		correct sketch	2	B2 for fully correct sketch [B1 for a square (or rectangle) drawn with 2 or 3 connecting triangles on the outside of the square]
17	(a)(i)		12.978(61279…)	2	B1 for 12.978(…..)
	(ii)		13		B1 for 13 or ft from a(i) [Note: An answer of 13.0 gets B0]
	(b)		100000	1	B1 cao
18	(a)	$2 \times 8 = 16$ $16 + 7$	23	2	M1 for correct substitution of 8 into the expression $2f$ A1 cao
	(b)	$3 \times -2 + 5 \times 4$	14	2	M1 for correct substitution into the formula A1 cao

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
19	(a)		$\frac{40}{360}$	1	B1 for $\frac{40}{360}$ oe (ignore any incorrect simplification) Accept 0.11…. if no fraction shown
	(b)		4	3	M1 for a correct method to find the angle of the 'weeding' sector If measured, accept an angle between 138 and 142 inc. M1 (dep) for a correct method to find the number of degrees per hour (= 20) or the number of hours ($\frac{1}{20}$ (3 mins) per degree A1 cao for 4
20	(a)		2.5	2	M1 for 10 (cm) or "10" ÷ 4 A1 for 2.45 – 2.55
	(b)		A marked on diagram	2	M1 for a point marked (or line drawn) on a bearing of 038° from either point B or point W, OR for a point marked (or arc drawn) 6 cm from B A1 for the position of Avebury marked (accept without label if not ambiguous)

PMT

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
21	(a)		30	1	B1 for 30 minutes oe
	(b)		20	1	B1 cao
	(c)		graph completed	2	B1 for horizontal line from (5, 20) to (5.30, 20) B1 for a single straight line with the correct gradient from '(5.30, 20)' to the time axis
22	(a)		$x = 3$ drawn	1	B1 for $x = 3$ drawn [Note: each line drawn must be a single line segment satisfying $x = 3$]
	(b)		$y = x$ drawn	1	B1 for $y = x$ drawn [Note: each line drawn must be a single line segment satisfying $y = x$]
	(c)	Gradient = $\frac{3-0}{0--2}$	1.5	2	M1 for a method to find the gradient of the given line A1 for 1.5 oe
23	(a)		n^8	1	B1 for n^8 (accept n^{5+3})
	(b)		n^5	1	B1 for n^5 (accept n^{7-2})

PMT

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
24	(a)	15 ÷ 6	2.5	2	M1 for 15 ÷ 6 oe A1 for 2.5 or $2\frac{1}{2}$
	*(b)		Yes + evidence	2	M1 for a correct method to change 15 miles into kilometres C1(dep on M1) for 24 km **and** statement with correct conclusion [SC: B1 for "Yes" oe and 24 km shown if M0 scored] **OR** M1 for a correct method to change 20 kilometres into miles C1(dep on M1) for 12.5 miles **and** statement with correct conclusion [SC: B1 for "Yes" oe and 12.5 miles shown if M0 scored]

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
25			414.96	5	M1 for a correct method to work out the amount of oil required to fill the tank M1 for a correct method to find the cost of oil required before the discount M1 for a correct method of finding 5% of their calculated cost M1 (dep on previous M1) for a correct method to find the discounted cost A1 for correct answer of 414.96 or 41496p **OR** M1 for a correct method of finding 5% of the cost of 1 litre of oil M1 (dep on previous M1) for a correct method to find the discounted cost of 1 litre of oil M1 for a correct method to work out the amount of oil required to fill the tank M1 for a correct method to find the discounted cost of the oil required A1 for correct answer of 414.96 or 41496p **OR** M1 for a correct method to work out the amount of oil required to fill the tank M1 for a correct method of finding 5% of their calculated amount of oil M1 (dep on previous M1) for a correct method to find the reduced amount of oil M1 for a correct method to find the cost of the reduced amount of oil A1 for correct answer of 414.96 or 41496p

PMT

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
26	(a)	$1 - 0.2 - 0.1$ $0.7 \div 2$	0.35	3	M1 for correctly using total probability 1 or 100% if percentages used M1 (dep) for complete correct method to complete the solution A1 for 0.35 or 35% or $\frac{35}{100}$ oe
	(b)	0.1×200	20	2	M1 for 0.1×200 A1 cao [SC: B1 for an answer of $\frac{20}{200}$ if M0 scored]
27	(a)		$3x + 12$	1	B1 for $3x + 12$ or $12 + 3x$
	(b)		$x^3 + 2x$	2	M1 for the intention to multiply both terms in the bracket by x A1 for $x^3 + 2x$ OR B2 for $x^3 + 2x$ [B1 for x^3 or $2x$ seen]
	(c)		$x(x - 6)$	1	B1 for $x(x - 6)$ or $(x - 6)x$

1MA0_2F					
Question		**Working**	**Answer**	**Mark**	**Notes**
28			1180	3	M1 for a correct method to find the area of the cross section M1 (dep) for a complete correct method for the volume of the prism A1 cao OR M1 for a correct method to find the volume of one cuboid M1 (dep) for a complete correct method for the volume of the prism A1 cao

PMT

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Rewarding Learning

Question 29

Answers to part (a) of this question revealed several approaches. A number of students showed a good understanding of similarity and gave a correct answer which scored full marks, but many students used differences leading to the incorrect working $15 - 10 = 5$, $9 - 5 = 4$. They could not be awarded any credit. Some students made little headway with the question. A minority of students obtained one mark for finding a relevant scale factor but were then unable to complete the question successfully.

A greater proportion of students gained some credit for their responses to part (b) than in part (a). There were a good number of fully correct answers. Where two marks were not scored, students often made some progress, for example by marking the lengths 4cm and 10 cm for HG and HK respectively and then working out that the length of GK was 6cm, but getting no further. It was not uncommon to see EG marked on the diagram as 10 cm and/or FG marked in as 6 cm, leading to an incorrect answer of 4 cm for the length of EF.

Summary

Based on their performance on this paper, students should:

- consider carefully the facts concerning angles, for example when “angles on a line add to 180” applies and when it does not
- practice solving problems using the mean, paying particular attention to how many pieces of data are to be added before dividing to find the mean
- carry out a common sense check on the answers to calculations, so for example you should expect the angle x in question 9 to be less than 90°
- check all calculations for arithmetic errors particularly when completing a paper where the use of a calculator is not allowed.

Question 23

Although the correct pairing of *A* and *D* was often seen, *A* was often paired with an incorrect triangle.