

General Certificate of Secondary Education January 2014

Mathematics

Unit T5 Paper 1

(Non-calculator)
Foundation Tier





[GMT51]

WEDNESDAY 15 JANUARY 9.15am-10.15am

TIME

1 hour, plus your additional time allowance.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page. You must answer the questions in the spaces provided.

Complete in blue or black ink only.

Answer all eighteen questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

You **must not** use a calculator for this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 50.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Functional Elements will be assessed in this paper.

Quality of written communication will be assessed in question 11.

You should have a ruler, compasses and a protractor.

The Formula Sheet is on page 2.

Formula Sheet

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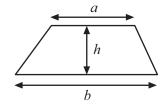
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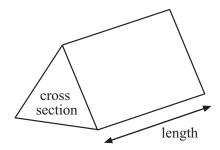
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Remercish Parameter Parame

Area of trapezium = $\frac{1}{2}(a+b)h$

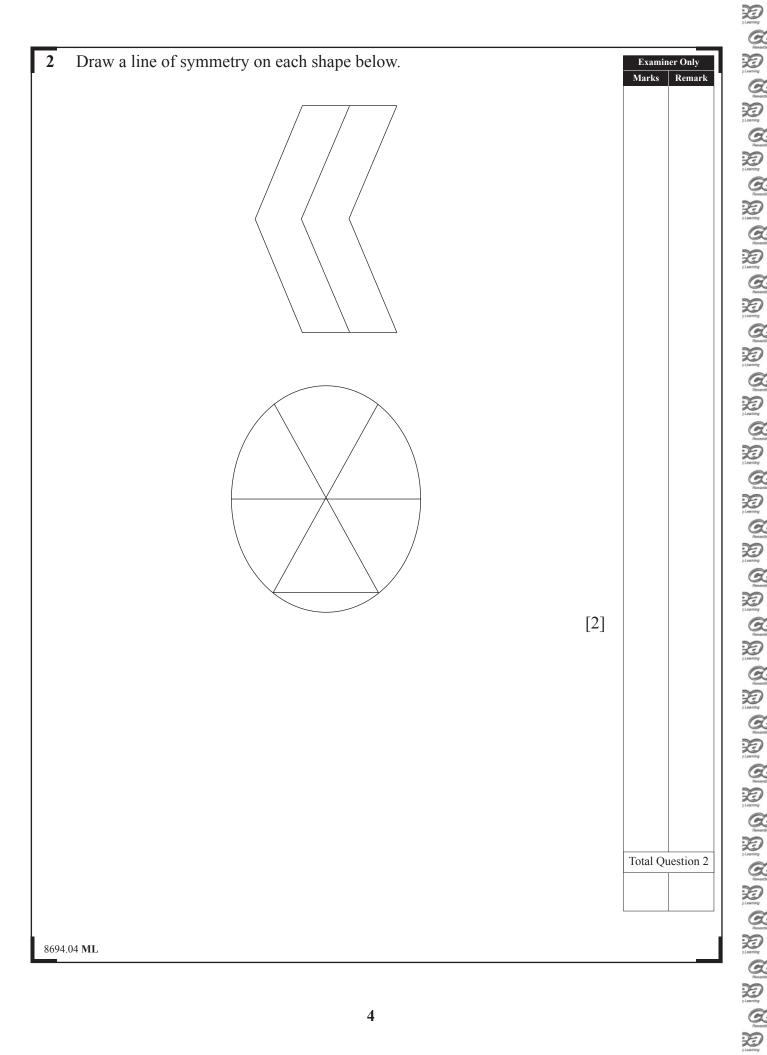


Volume of prism = area of cross section \times length

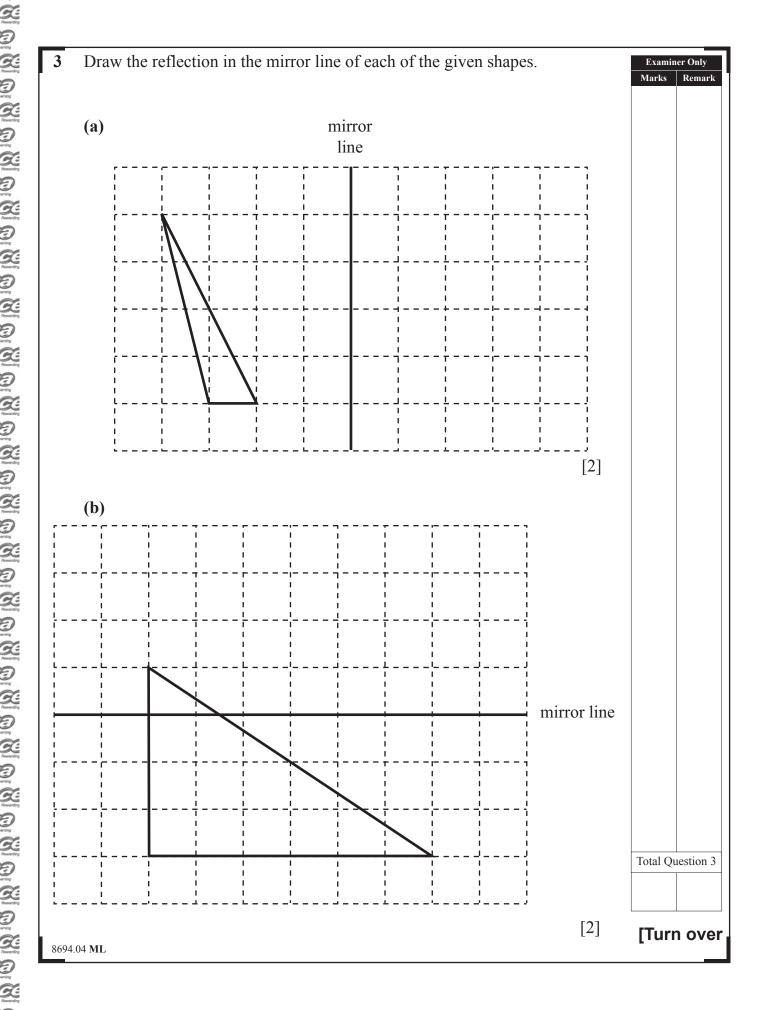


1 ((a)	Estimate 108×7.8		Examiner Only Marks Remark
((b)	Answer Estimate how many books you can buy for £48 if ea costs £7.95	[2] sch book	
((c)	Answer Estimate $\sqrt{75}$	[2]	
((d)	Answer Write 4387 correct to the nearest 100	[1]	
((e)	Answer Round 19.0396	[1]	
		(i) to two decimal places, Answer	[1]	
8694.04	ML	(ii) to three decimal places. Answer	[1]	Total Question 1

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4	Molly works out that the telephone calls to her house are:	Examiner Only Marks Remark					
	72% for her mother 15% for her father 12% for Molly 1% for her brother						
	unlikely certain impossible evens likely						
	CVCHS						
	From the list of words in the box above, choose the best word to describe the probability that the next telephone call to Molly's house is for						
	(a) Molly Answer [1]					
	(b) her mother Answer [1]					
	(c) her aunt Answer [1	Total Question 4					
5	Andy visits schools using his own car. His daily pay is calculated using the formula below.						
	Daily pay = £120 + number of miles travelled × rate per mile						
	The rate per mile is £0.50 One day Andy travelled a total of 48 miles. Work out his pay for that day.						
	Answer £ [2	Total Question 5					
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6	Calculate the value of $24-3\times2$		Examiner Only Marks Remark
	Answer	[1]	Total Question 6
7	(a) (i) What is the order of rotational symmetry of the shape above?		
	Answer	[1]	
	(ii) Draw all the lines of symmetry on the shape above.	[2]	
	(b) Mark with an X the centre of rotational symmetry on the shape below	OW.	

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Total Question 7

[Turn over

[1]

The graph below can be used to convert between litres and gallons. 8 Examiner Only Marks Remark 10 gallons 8 6 4 2 10 20 30 40 50 litres (a) Use the graph to work out the number of litres that are equivalent to 8 gallons. Answer _____ litres [1] **(b)** Use the graph to work out the number of gallons that are equivalent to 25 litres. Answer _____ gallons [1] Total Question 8 Work out the value of p-2q-3r when p=5, q=3 and r=49 Total Question 9 Answer _____ [2] 8694.04 ML

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10	Each letter of the alphabet is written on a tile. The 26 tiles are put in a	Examin Marks	er Only Remark
	bag. One tile is chosen at random from the bag.	17141115	
	(a) Write down the probability that the letter on the tile is Q.		
	Answer [1]		
	(b) Write down the probability that the letter on the tile is a letter from the word MATHEMATICS.		
	Answer [1]	Total Qu	estion 10
Qu	ality of written communication will be assessed in this question.		
11	Peter says,		
	"When you add any two prime numbers together you always get an even number as the answer."		
	Use an example to show that Peter is not correct.		
		Total Qu	estion 11
	[2]		
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12	Write down how many significant figures there are in Examiner Only Marks Remark															
	(a) 6	603.9														
										Ansv	wer _			_ [1]		
	(b) (0.0006	57													
										Answ	ver _			_ [1]	Total Qu	estion 12
13	Enlar	ge the	e shap	e belo	ow by	scale	e facto	or 3								
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															Total Qu	estion 13
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14	Mr Davison plans a school trip. He uses the information below.		ner Only
	For every 20 pupils you will need	Marks	Remark
	16 bottles of milk 24 rounds of sandwiches 10 bars of chocolate		
	50 pupils go on the school trip. How much of each of these would you need?		
	hattles of wills		
	bottles of milk		
	rounds of sandwiches		
	bars of chocolate [3]	
		Total Qu	estion 14
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15 PQRS is a trapezium. PS and QR are perpendicular to the line PQ.

PT = 5 cm, TQ = 6 cm, PS = 4 cm and QR = 6 cm.

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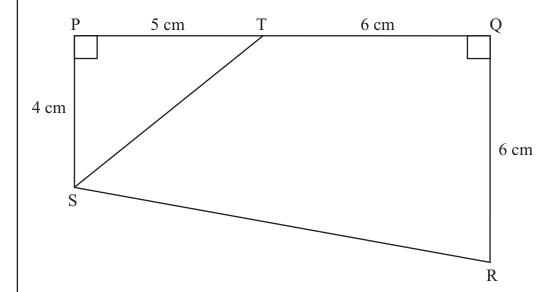
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Total Question 15

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Marks Remark



(a) Find the area of the trapezium PQRS.

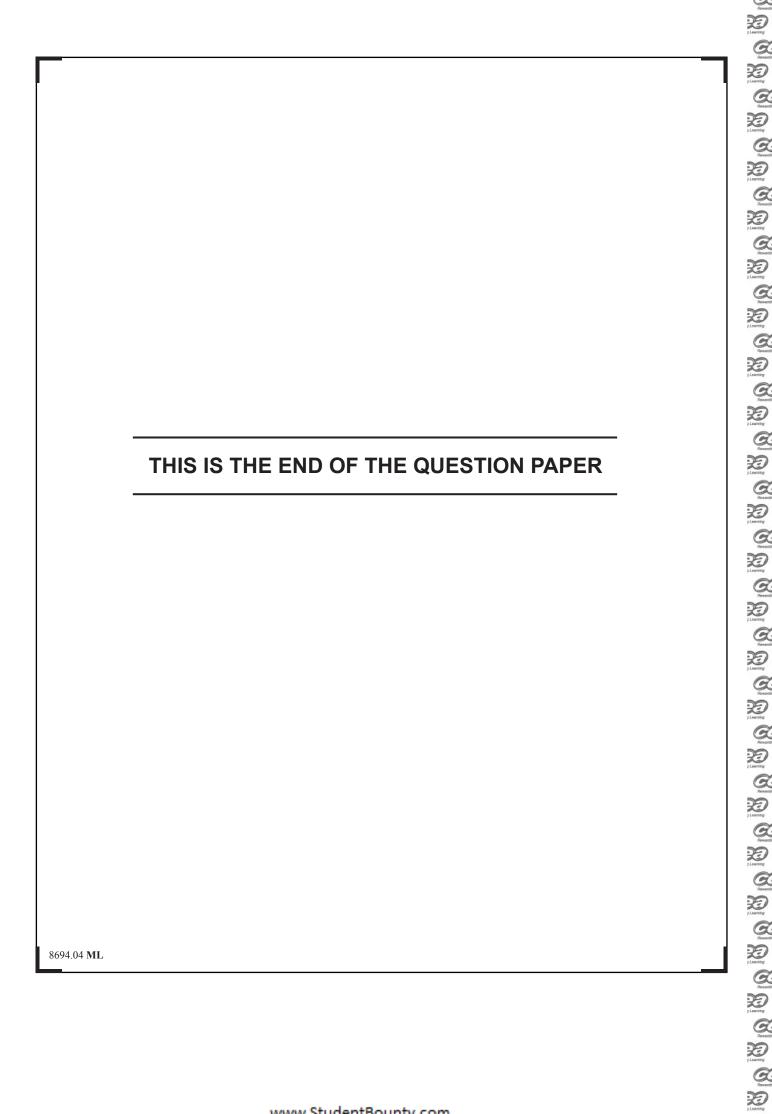
Answer _____ cm² [2]

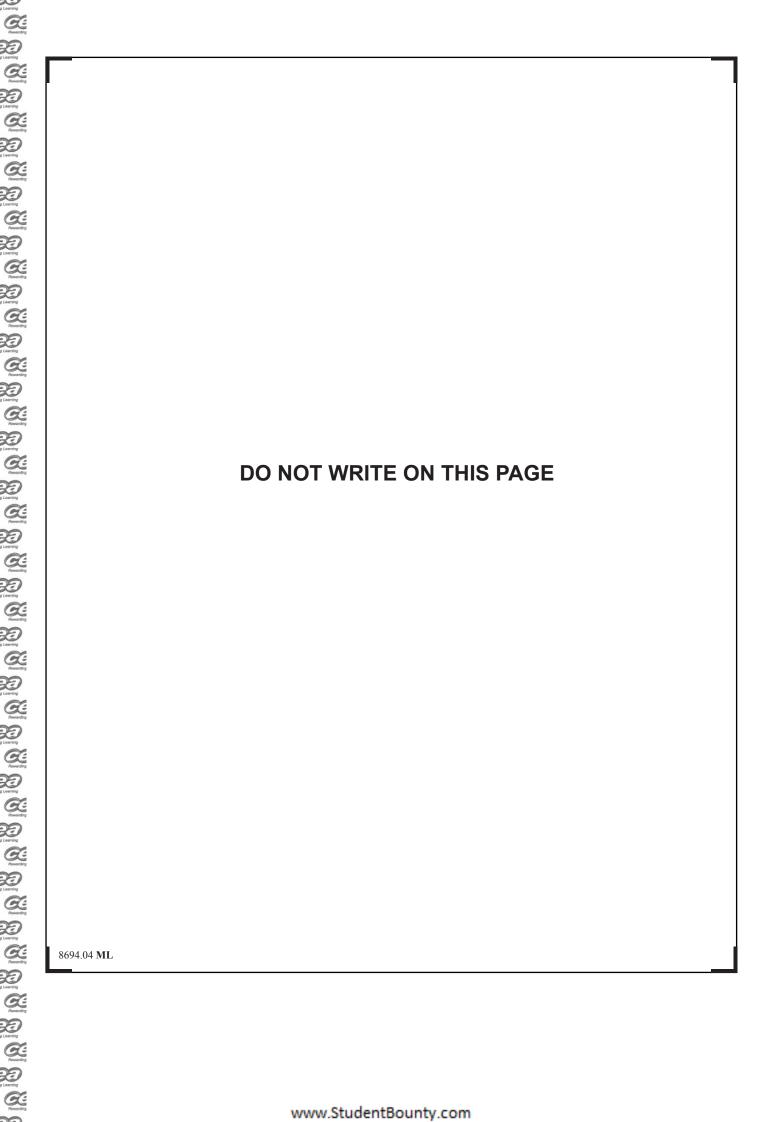
(b) Find the area of the quadrilateral TQRS.

Answer ______ cm² [2]

16	Find the reciprocal of 1.2		iner Only
		Marks	Remark
	Answer [2]	Total O	uestion 16
		Total Q	destion to
15			
17	Solve the inequality $-2 < 3n \le 12$ where n is an integer. List all values of n .		
	A m graven	T . 10	.: 15
	Answer [3]	Total Q	uestion 17
18	There is a box with some pens in it. There are 8 black, 6 blue, 4 green and		
	the rest are red. The probability of taking a red pen from the box is $\frac{1}{10}$		
	How many red pens are in the box?		
		Total O	uestion 18
		Total Q	desiron 10
	Answer [2]		
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Question Number	Marks	
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