

	Cent	re Nu	mber
Cai	ndida	te Nu	mber

General Certificate of Secondary Education 2016

Mathematics

Unit T5 Paper 1 (Non-calculator)
Foundation Tier





[GMT51] *GMT51*

THURSDAY 2 JUNE, 9.15am-10.15am

TIME

1 hour.

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.

Do not write outside the boxed area on each page, on blank pages or tracing paper.

Complete in blue or black ink only. Do not write with a gel pen.

Answer all fifteen questions.

All 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 Questions 7 and 9(b).

You should have a ruler, compasses and a protractor.

The Formula Sheet is on page 2.



Formula Sheet

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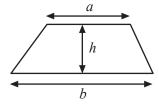
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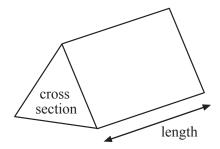
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Area of trapezium = $\frac{1}{2}(a+b)h$

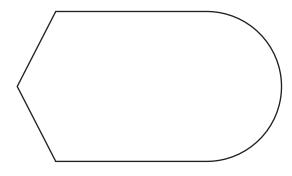


Volume of prism = area of cross section \times length



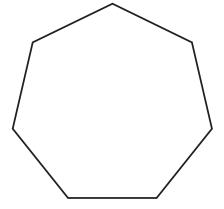


1 (a) Draw a line of symmetry on the shape below.



[1]

(b) (i)



What is the order of rotational symmetry of the shape above?

Answer _____[1]

(ii) Draw all the lines of symmetry on the shape in part (i). [2]

[Turn over

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2 Draw the reflection in the mirror line of each of these shapes. (a) mirror line [2] **(b)** mirror line [2] 9989

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3	In a quiz there are twelve questions.		
	Each correct answer gains four points.		
	Each wrong answer loses two points.		
	(a) Team A gave twelve correct answers.		
	How many points did they get altogether?		
		Answer	[1]
	(b) Team B gave eight correct answers and four wro	ong answers.	
	How many points did they get altogether?		
		Answer	[2]
	(a) Tages Congruend all trushes questions		
	(c) Team C answered all twelve questions.		
	Explain how they could get 30 points altogether		
			[2]
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4	Estimate the value of 98	× 6.9			
	You must show your work	K.			
			Aı	nswer	[2]
5	Impossible	Certain	Likely	Unlikely	
	Very unli	kely Eve	ns Ver	y likely	
	Choose from the words in Explain your answers. (a) You buy a lottery tick		_	ity of each of the fo	ollowing.
	Answer		_ because		
					[2]
	(b) Christmas Day will fa	all on 25th Decem	ber this year.		
	Answer		_ because		
					[2]
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6	Write each of the following correct to three decimal places.
	(a) 63.4034



Quality of written communication will be assessed in this question.

7 Explain why $\sqrt{73}$ must be a number between 8 and 9

[2]

- **8** Work out the value of
 - (a) $17 + 5 \times 3$

Answer _____[1]

(b) $30 \div (5-2)$

Answer _____[1]

[Turn over

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Quality of written communication will be assessed in part (b) of this question.

9 Jack has been asked by his teacher to investigate the two algebraic expressions

$$pq + r$$
 and $p(q + r)$

(a) He substitutes the values p = 1, q = 3 and r = 4 into both expressions and finds that he gets the same answer.

Show that this is true.

[4]

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(b) Jack says that this means that pq + r = p(q + r).

Explain why Jack is wrong.

[2]



10 A three-sided spinner has the numbers 2, 4 and 6 written on it. The probability of getting each number is the same.

A fair dice has the numbers 1, 3, 5, 7, 9 and 11 written on it.

In a game the spinner is spun and the dice is rolled. The two scores are added together.

(a) Use the two-way table to show all the outcomes for the sum of the two scores.

+	1	3	5	7	9	11
2						
4						
6						

[2]

(b) What is the probability that the sum of the two scores is greater than 12?

Answer _____[2]

[Turn over

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11 The surface area of a cylinder can be found by using the formula

$$S = 2A + C$$

Find the value of C when S = 23 and A = 3.5

Answer
$$C = \underline{\hspace{1cm}} [2]$$

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12 Use the information $639 \times 8.5 = 5431.5$ to find the value of

(a)
$$6.39 \times 85$$

(b)
$$543.15 \div 850$$



13 STUR is a trapezium. ST and RU are perpendicular to the line TU.

TV = 3 cm, VU = 4 cm, ST = 9 cm and RU = 13 cm.

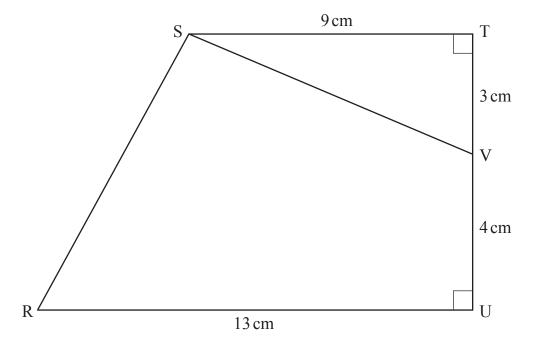


Diagram not drawn accurately

Find the area of the

(a) trapezium STUR,

Answer _____ cm² [2]

(b) quadrilateral SVUR.

Answer cm² [2]

[Turn over]

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$$\frac{298.7 \times 4.13}{0.526}$$

You must show all your working.

Answer _____[3]

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15 90 pupils audition for a part in the school play. 60 are girls.

The probability that a girl gets a part is 0.35 and the probability that a boy gets a part is 0.6

How many pupils are in the school play?

Answer [4]





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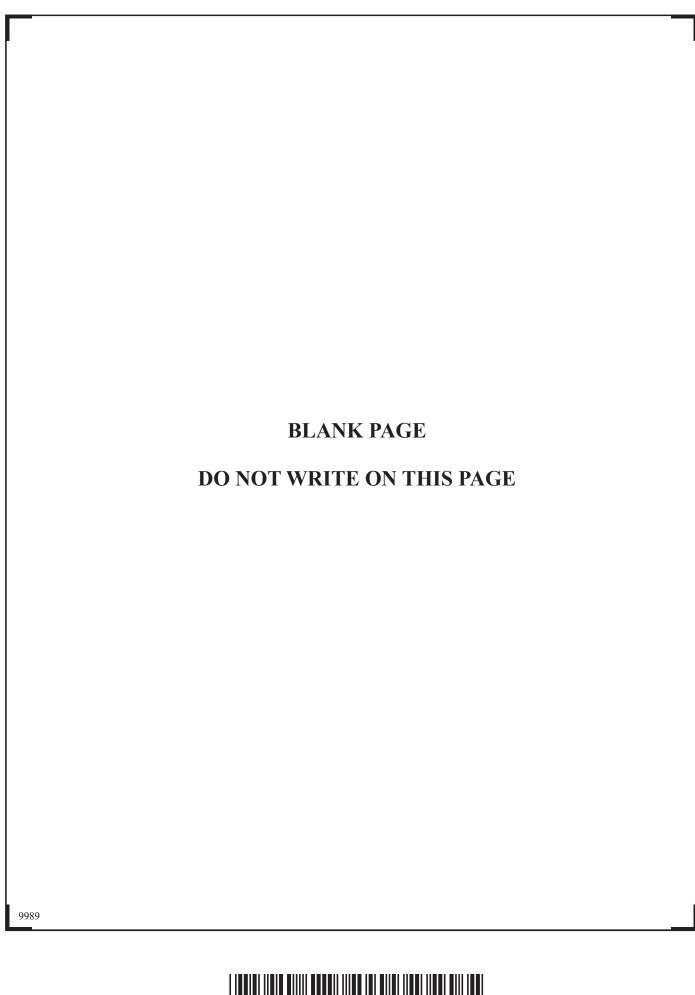
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