Centre Number

Candidate Number

cea

Rewarding Learning

**General Certificate of Secondary Education
2016**

Mathematics

Unit T5 Paper 1
(Non-Calculator)
Foundation Tier

MV18

[GMT51]

THURSDAY 2 JUNE, 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 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 at the end of each question indicate the marks awarded to each question or part question.

Functional Elements will be assessed in this paper.

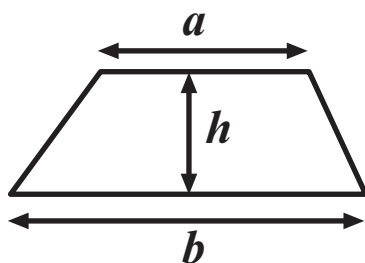Quality of written communication will be assessed in **Questions 7** and **9(b)**.
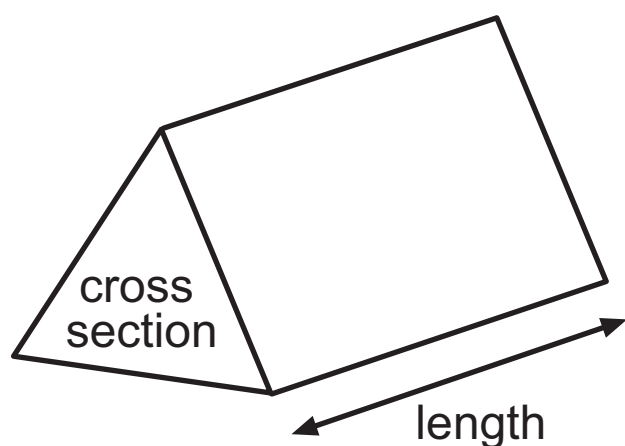
You should have a ruler, compasses and a protractor.
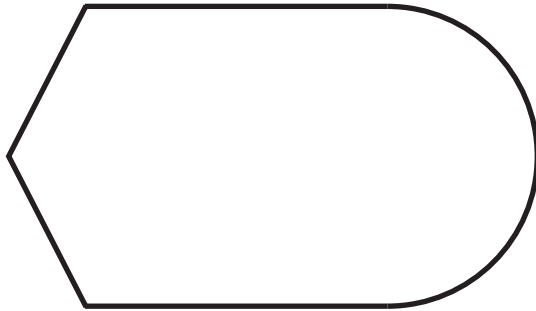
The Formula Sheet is on page 3.

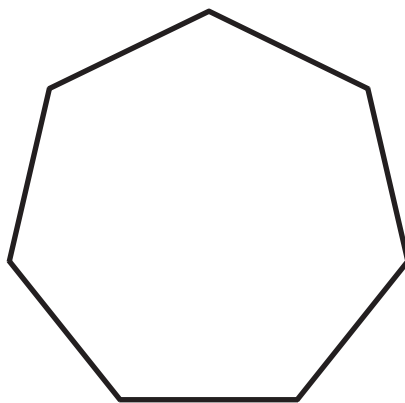# Formula Sheet

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

Volume of prism = area of cross section × length

3

[Turn over

1 **(a)** Draw a line of symmetry on the shape below.
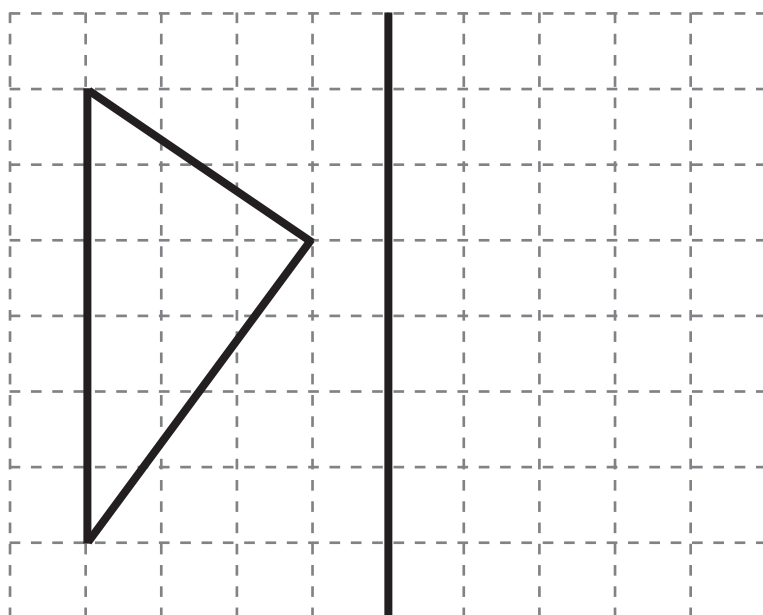[1 mark]

(b) (i)

What is the order of rotational symmetry of the shape above?   [1 mark]
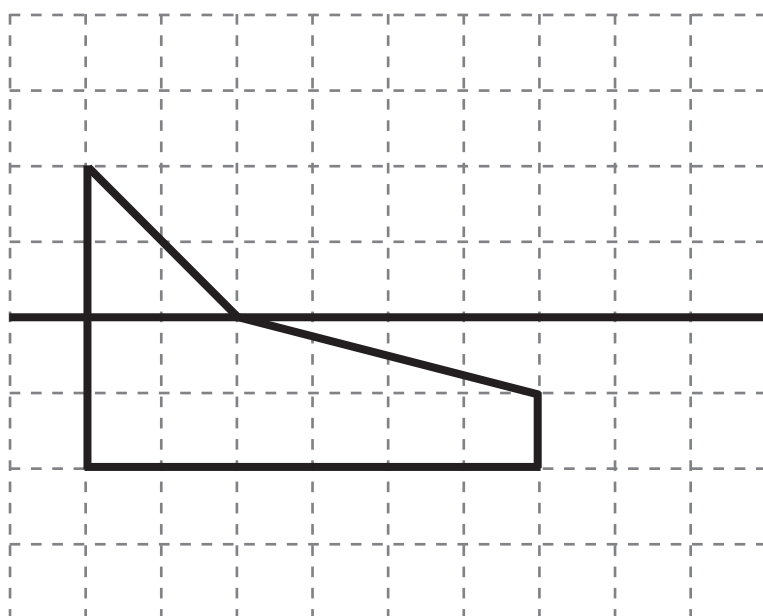
Answer _____

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

2 Draw the reflection in the mirror line of each of these
shapes.   [4 marks, 2 marks for each part]

(a)   **mirror line**

(b)

mirror
line

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?   [1 mark]

Answer _____

(b) Team B gave eight correct answers and four wrong answers.

How many points did they get altogether?   [2 marks]

Answer _____

(c) Team C answered all twelve questions.

Explain how they could get 30 points altogether.
[2 marks]

4 **Estimate** the value of 98×6.9 [2 marks]

You must show your work.

Answer _____

5

Impossible	Certain	Likely	Unlikely
Very unlikely	Evens	Very likely	

Choose from the words in the box to describe the probability of each of the following. Explain your answers.
[2 marks for each answer]

(a) You buy a lottery ticket and win the jackpot.

Answer _____ because _____

_____

(b) Christmas Day will fall on 25th December this year.

Answer _____ because _____

_____

6 Write each of the following correct to three decimal places.

(a) 63.4034   [1 mark]

Answer _____

(b) 0.09876   [1 mark]

Answer _____

Quality of written communication will be assessed in this question.

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

8 Work out the value of

(a) $17 + 5 \times 3$ [1 mark]

Answer _____

(b) $30 \div (5 - 2)$ [1 mark]

Answer _____

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 marks]

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

Explain why Jack is wrong.   [2 marks]

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.   [2 marks]

+	1	3	5	7	9	11
2						
4						
6						

(b) What is the probability that the sum of the two scores is greater than 12?   [2 marks]

Answer _____

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   [2 marks]

Answer C = _____

12 Use the information 639 × 8.5 = 5431.5 to find the value of
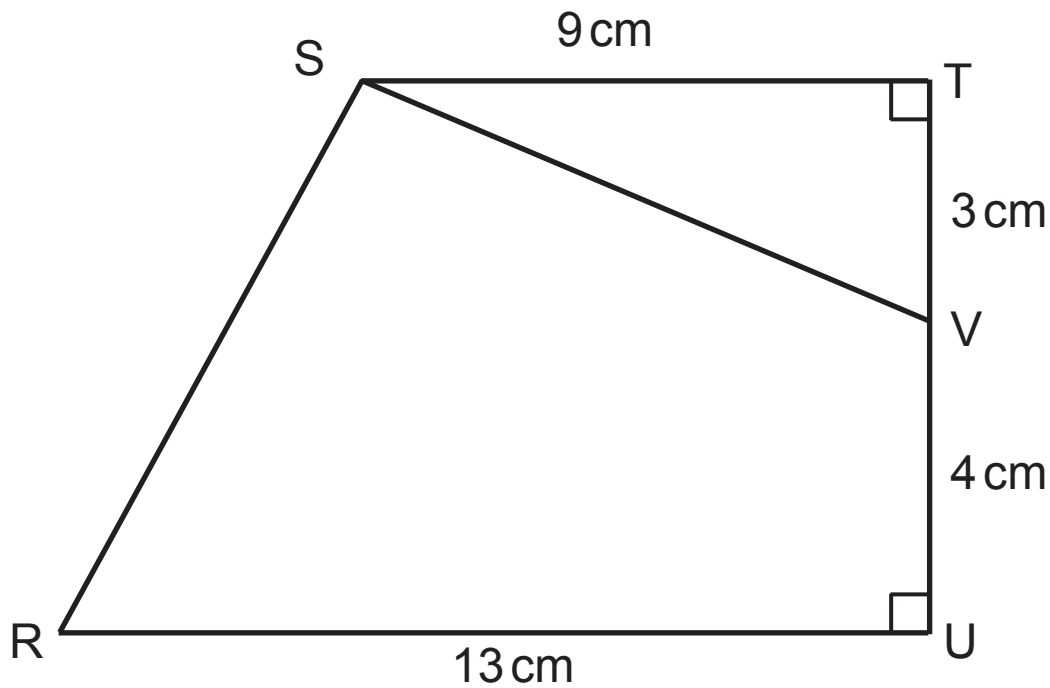
(a) 6.39 × 85   [1 mark]

Answer _____

(b) 543.15 ÷ 850   [1 mark]

Answer _____

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

14

Find the area of the

(a) trapezium STUR, [2 marks]

Answer _____ cm^2

(b) quadrilateral SVUR. [2 marks]

Answer _____ cm^2

14 Estimate the value of

$$\frac{298.7 \times 4.13}{0.526}$$ [3 marks]

You must show all your working.

Answer _____

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?   [4 marks]

Answer _____

_____

THIS IS THE END OF THE QUESTION PAPER
_____

For Examiner's use only	
Question Number	**Marks**
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
Total Marks	

Examiner Number

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