



Centre Number

71	
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Candidate Number

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General Certificate of Secondary Education
January 2014

Mathematics

Unit T5 Paper 1

(Non-calculator)
Foundation Tier



MV18

[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 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

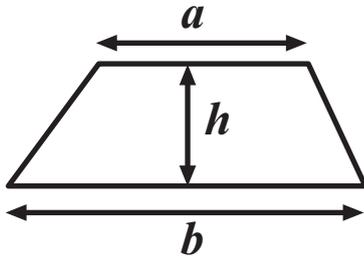
question 11.

You should have a ruler, compasses and a protractor.

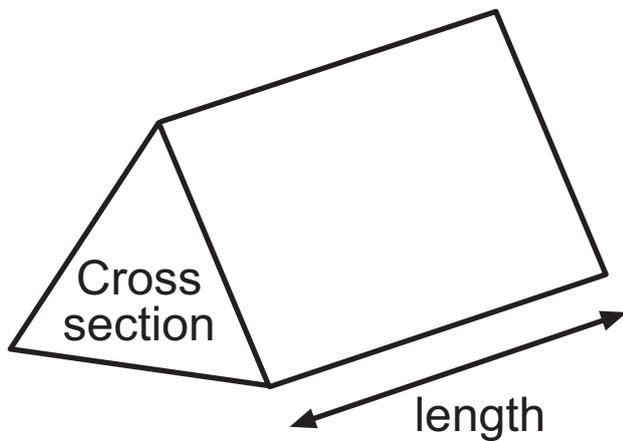
The Formula Sheet is on page 3.

Formula Sheet

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



$$\text{Volume of prism} = \text{area of cross section} \times \text{length}$$



1 (a) **Estimate** 108×7.8 [2 marks]

Answer _____

(b) **Estimate** how many books costing £7.95 each can be bought with £48 [2 marks]

Answer _____

(c) **Estimate** $\sqrt{75}$ [1 mark]

Answer _____

(d) Write 4387 correct to the nearest 100 [1 mark]

Answer _____

(e) Round 19.0396

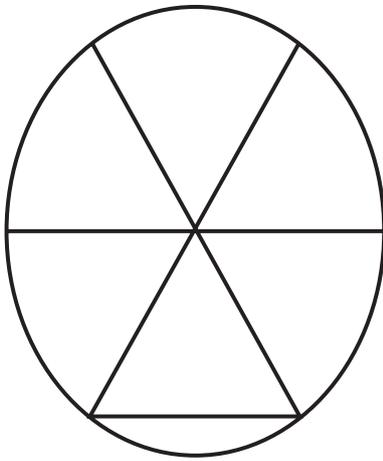
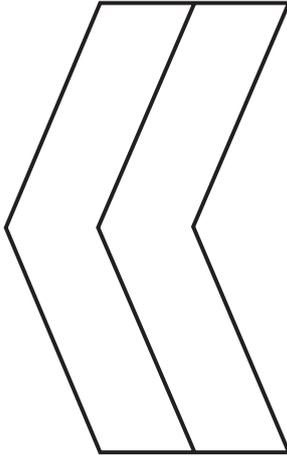
(i) to two decimal places, [1 mark]

Answer _____

(ii) to three decimal places. [1 mark]

Answer _____

2 Draw a line of symmetry on each shape below. [2 marks]



3 Draw the reflection in the mirror line of each of the given shapes. [2 marks]/[2 marks]

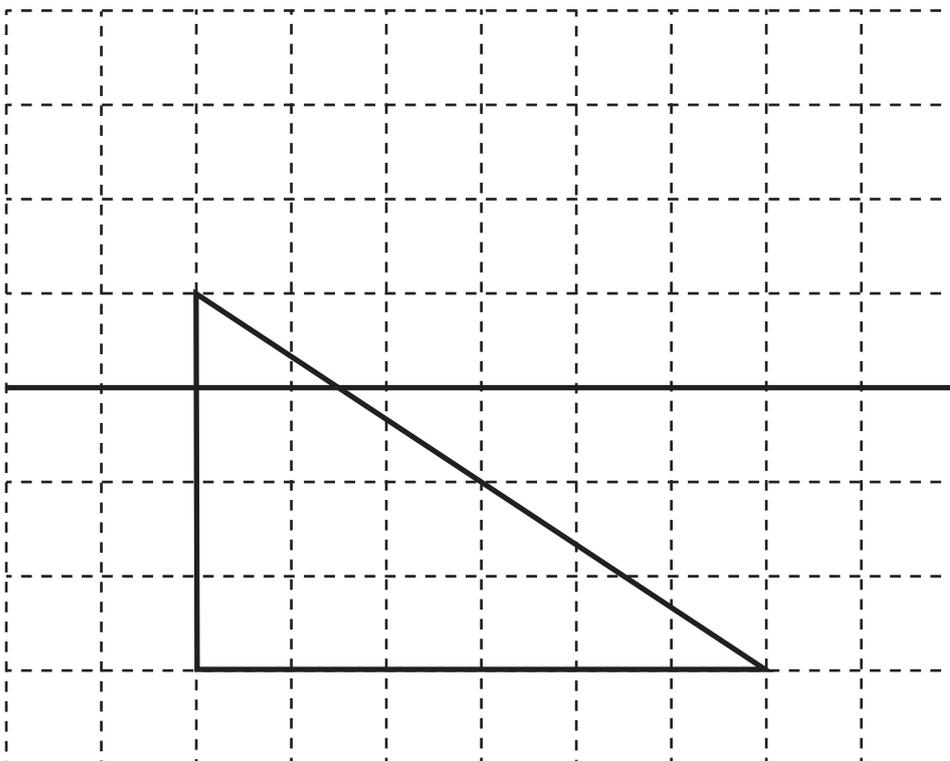
(a)

mirror
line



(b)

mirror
line



4 Molly works out that the telephone calls to her house are:

72% for her mother

15% for her father

12% for Molly

1% for her brother

unlikely

certain

impossible

evens

likely

From the list of words given above, write the most appropriate word to describe the probability that the next telephone call to her house is for

(a) Molly [1 mark] Answer _____

(b) her mother [1 mark] Answer _____

(c) her aunt [1 mark] Answer _____

- 5 Andy makes visits to schools using his own car.
His daily pay is calculated using the following formula.

$$\text{Daily pay} = \text{£120} + \text{number of miles travelled} \times \text{rate per mile}$$

The rate per mile is £0.50

One day he travelled a total of 48 miles.

Work out his pay for that day. [2 marks]

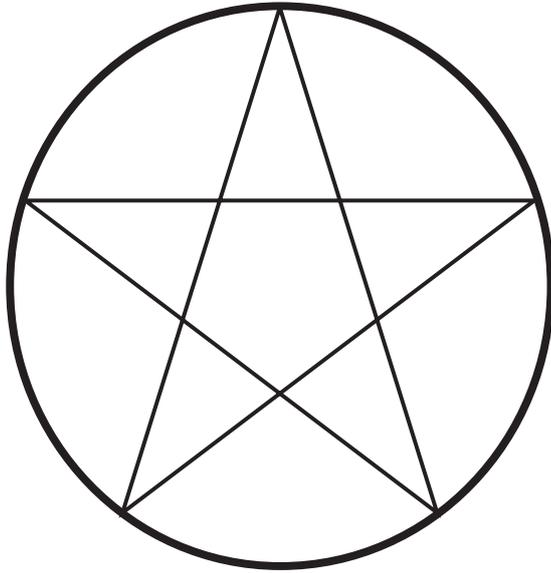
Answer £ _____

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6 Calculate the value of $24 - 3 \times 2$ [1 mark]

Answer _____

7 (a) (i)

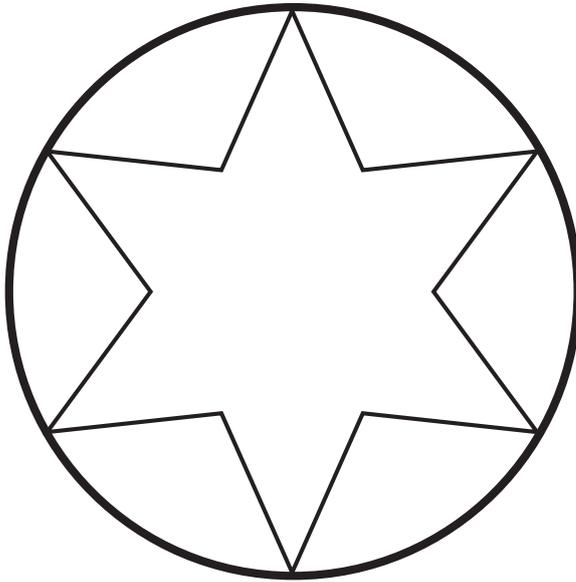


What is the order of rotational symmetry of the shape above? [1 mark]

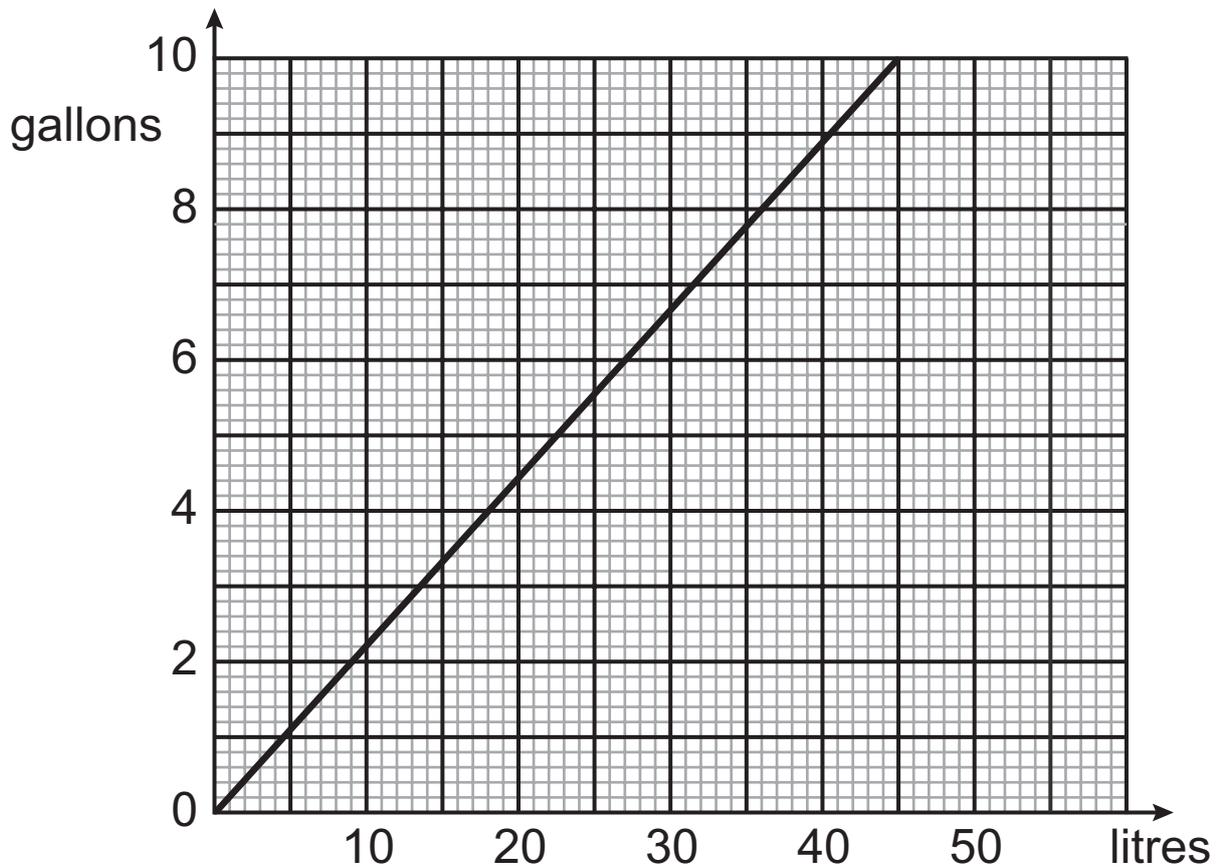
Answer _____

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

(b) Mark with X the centre of rotational symmetry on the shape below. [1 mark]



- 8 The graph below can be used to convert between litres and gallons.



Use the graph to work out

- (a) the number of litres which are equivalent to 8 gallons, [1 mark]

Answer _____ litres

- (b) the number of gallons which are equivalent to 25 litres. [1 mark]

Answer _____ gallons

9 Work out the value of

$p - 2q - 3r$ when $p = 5$, $q = 3$ and $r = 4$ [2 marks]

Answer _____

10 Each letter of the alphabet is written on a tile. The 26 tiles are placed in a bag.
One tile is chosen at random from the bag.
Write down the probability that the letter on the tile is

(a) Q, [1 mark]

Answer _____

(b) a letter from the word MATHEMATICS. [1 mark]

Answer _____

Quality 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.”

Show, using an example, that Peter is not correct. [2 marks]

12 Write down how many significant figures there are in

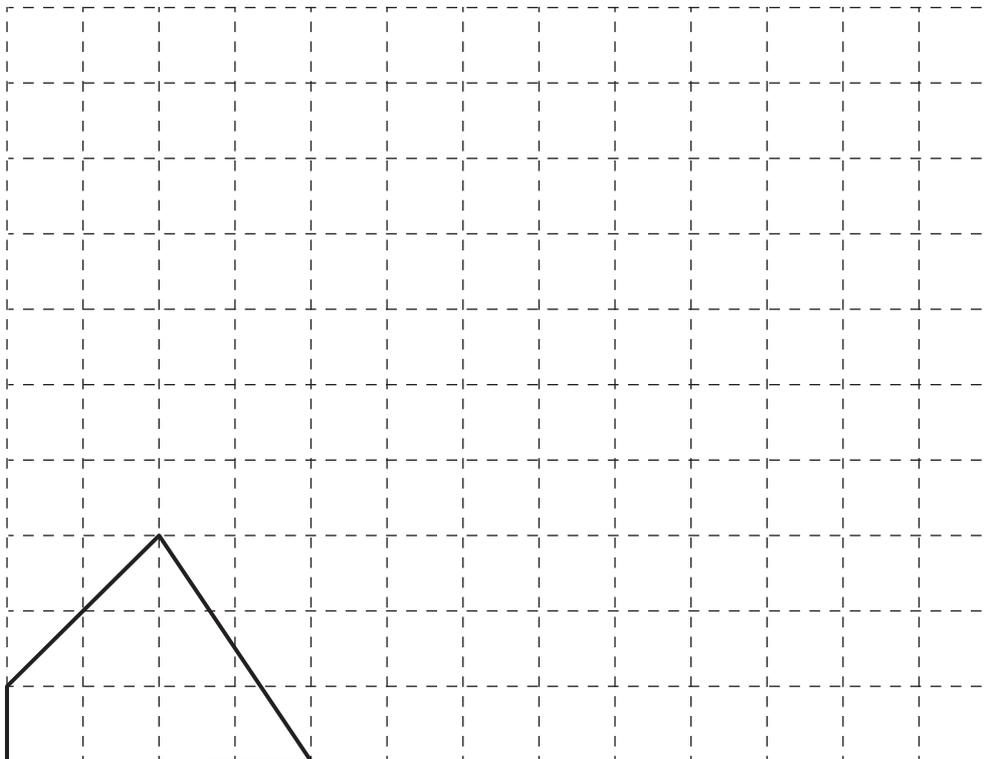
(a) 603.9 [1 mark]

Answer _____

(b) 0.00067 [1 mark]

Answer _____

13 Enlarge the shape below by scale factor 3 [2 marks]



14 In planning a school trip Mr Davison uses the following information.

For every 20 pupils you will need

16 bottles of milk

24 rounds of sandwiches

10 bars of chocolate

Complete the following for 50 pupils on a school trip.
[3 marks]

_____ bottles of milk

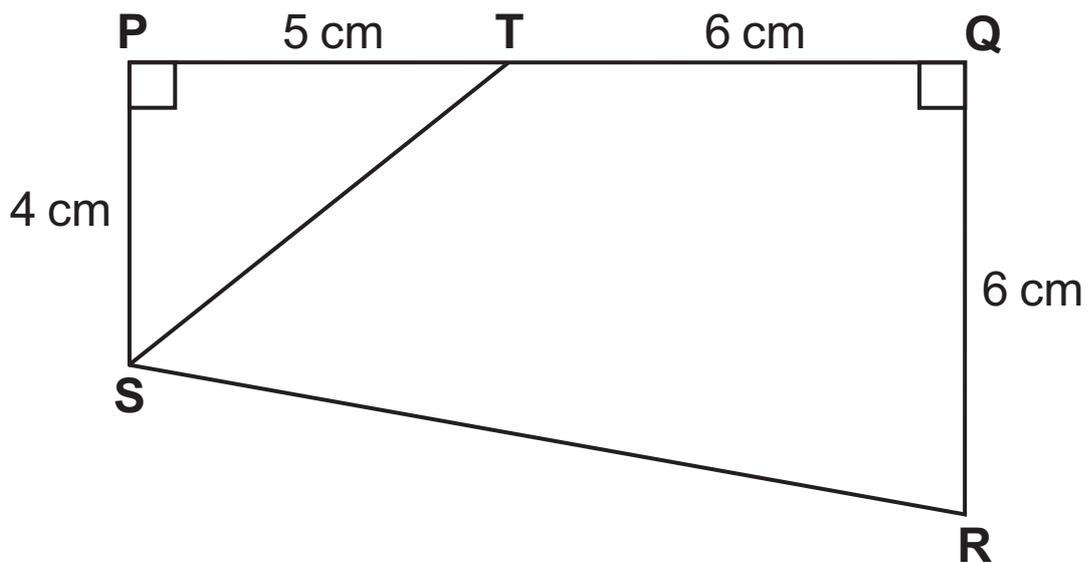
_____ rounds of sandwiches

_____ bars of chocolate

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.

Diagram not drawn accurately



Find the area of the

(a) trapezium **PQRS**, [2 marks]

Answer _____ cm²

(b) quadrilateral **TQRS**. [2 marks]

Answer _____ cm²

16 Find the reciprocal of 1.2 [2 marks]

Answer _____

17 Solve the inequality $-2 < 3n \leq 12$ where n is an integer.
List all values of n . [3 marks]

Answer _____

18 A box contains pens. 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? [2 marks]

Answer _____

THIS IS THE END OF THE QUESTION PAPER

DO NOT WRITE ON THIS PAGE

For Examiner's use only	
Question Number	Marks
1	
2	
3	
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Total Marks	
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Examiner Number

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