Rewarding Learning

Centre Number

Candidate Number

General Certificate of Secondary Education
January 2014

Mathematics

Unit T5 Paper 1

(Non-calculator)
Foundation Tier

[GMT51]

GMT51

WEDNESDAY 15 JANUARY 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 box, around each page, on blank pages or tracing paper.
Complete in blue or black ink only. **Do not write with a gel pen.**
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.

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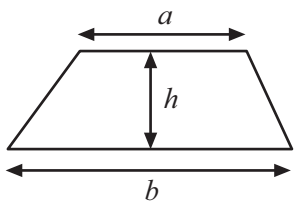
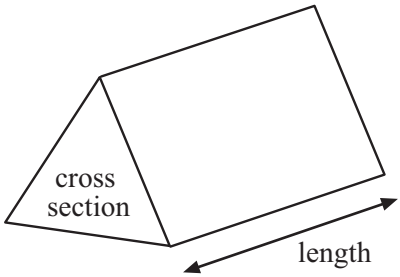
Formula Sheet

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



Volume of prism = area of cross section × length



1 **(a)** **Estimate** 108×7.8

Answer _____ [2]

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

Answer _____ [2]

(c) **Estimate** $\sqrt{75}$

Answer _____ [1]

(d) Write 4387 correct to the nearest 100

Answer _____ [1]

(e) Round 19.0396

(i) to two decimal places,

Answer _____ [1]

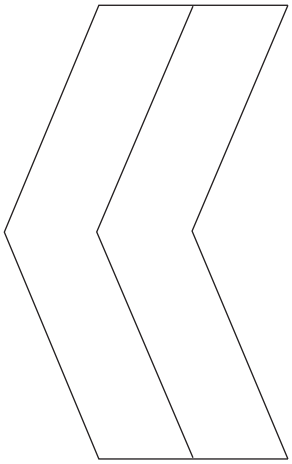
(ii) to three decimal places.

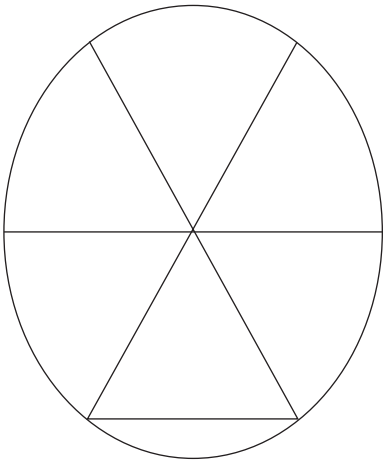
Answer _____ [1]

Examiner Only	
Marks	Remark
Total Question 1	

[Turn over

2 Draw a line of symmetry on each shape below.





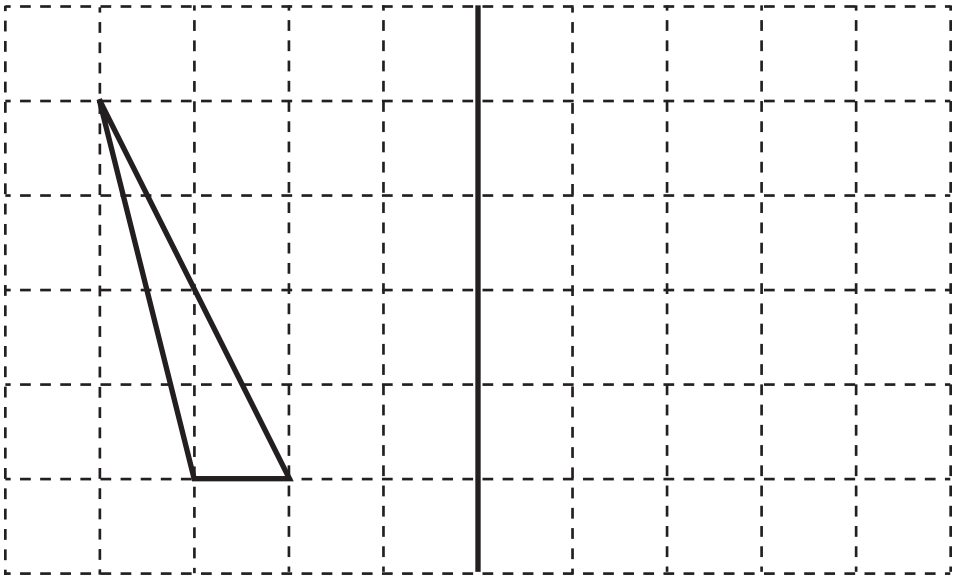
[2]

Examiner Only	
Marks	Remark
Total Question 2	

3 Draw the reflection in the mirror line of each of the given shapes.

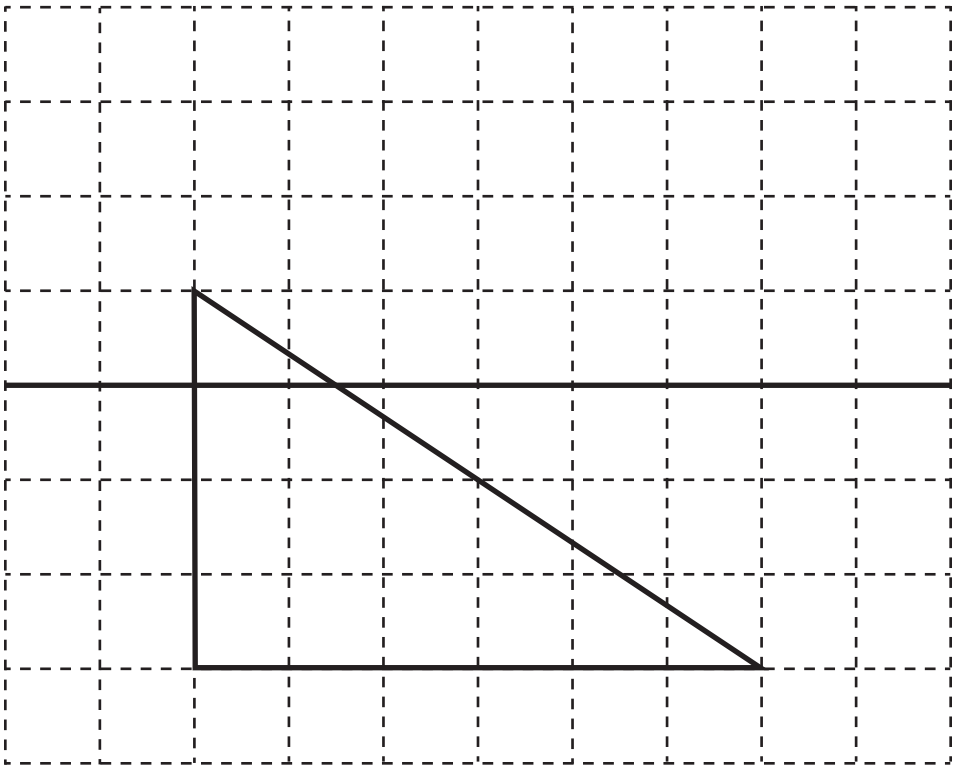
Examiner Only	
Marks	Remark

(a)



[2]

(b)



[2]

Total Question 3	

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 Answer _____ [1]

(b) her mother Answer _____ [1]

(c) her aunt Answer _____ [1]

Total Question 4

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

Daily pay = £120 + number of miles travelled × 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.

Answer £ _____ [2]

Total Question 5

Examiner Only

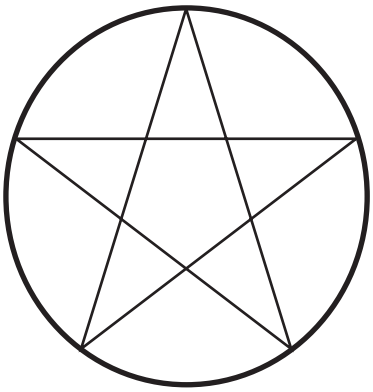
Marks	Remark

6 Calculate the value of $24 - 3 \times 2$

Answer _____ [1]

Examiner Only	
Marks	Remark
Total Question 6	

7 **(a)** **(i)**

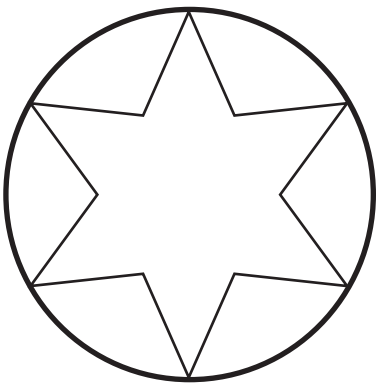


What is the order of rotational symmetry of the shape above?

Answer _____ [1]

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

(b) Mark with X the centre of rotational symmetry on the shape below.



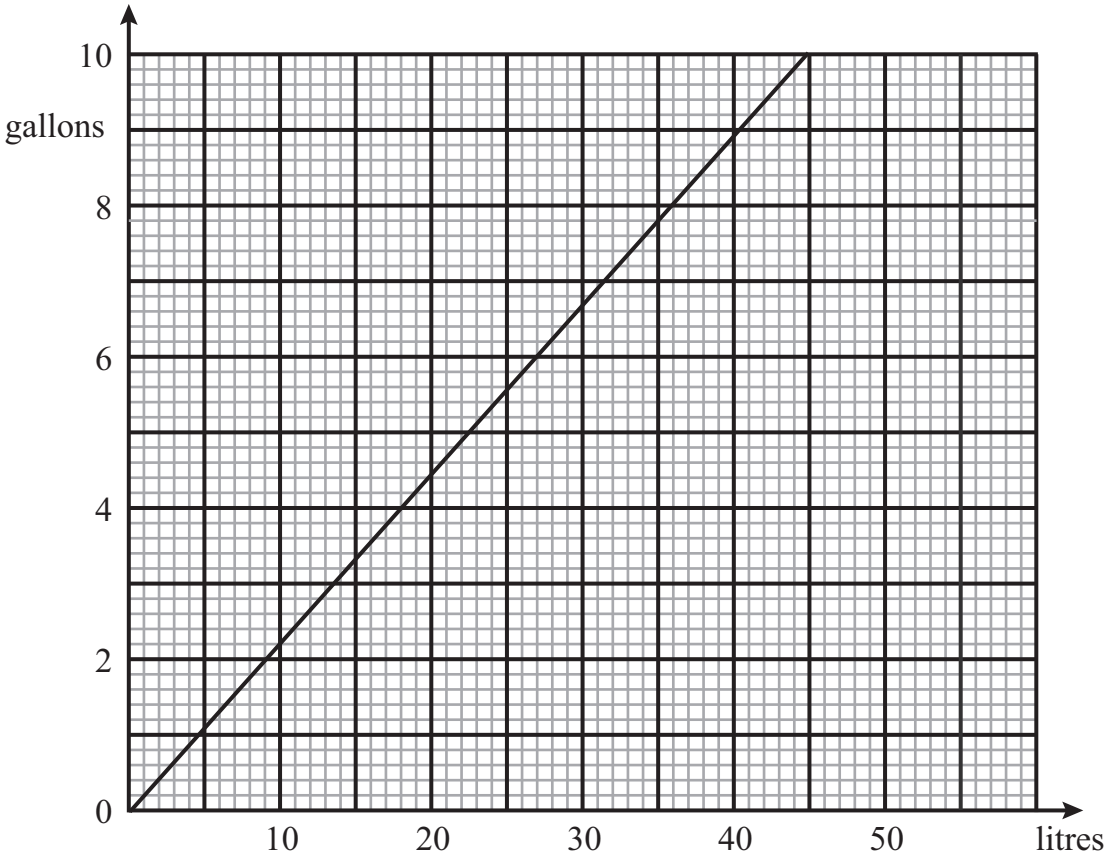
[1]

Total Question 7

[Turn over

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

Examiner Only	
Marks	Remark



Use the graph to work out

(a) the number of litres which are equivalent to 8 gallons,

Answer _____ litres [1]

(b) the number of gallons which are equivalent to 25 litres.

Answer _____ gallons [1]

Total Question 8

9 Work out the value of $p - 2q - 3r$ when $p = 5$, $q = 3$ and $r = 4$

Answer _____ [2]

Total Question 9

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,

Answer _____ [1]

(b) a letter from the word MATHEMATICS.

Answer _____ [1]

Examiner Only	
Marks	Remark
Total Question 10	

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]

Total Question 11	

12 Write down how many significant figures there are in

(a) 603.9

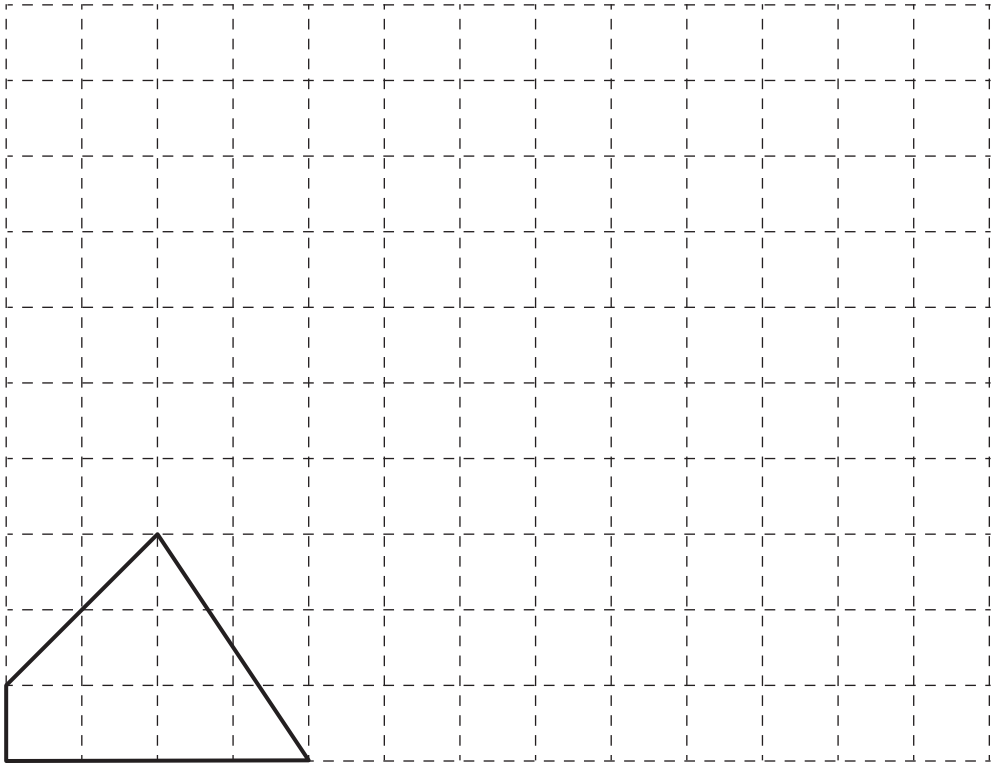
Answer _____ [1]

(b) 0.00067

Answer _____ [1]

Total Question 12

13 Enlarge the shape below by scale factor 3



[2]

Total Question 13

Examiner Only

Marks	Remark

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.

_____ bottles of milk

_____ rounds of sandwiches

_____ bars of chocolate [3]

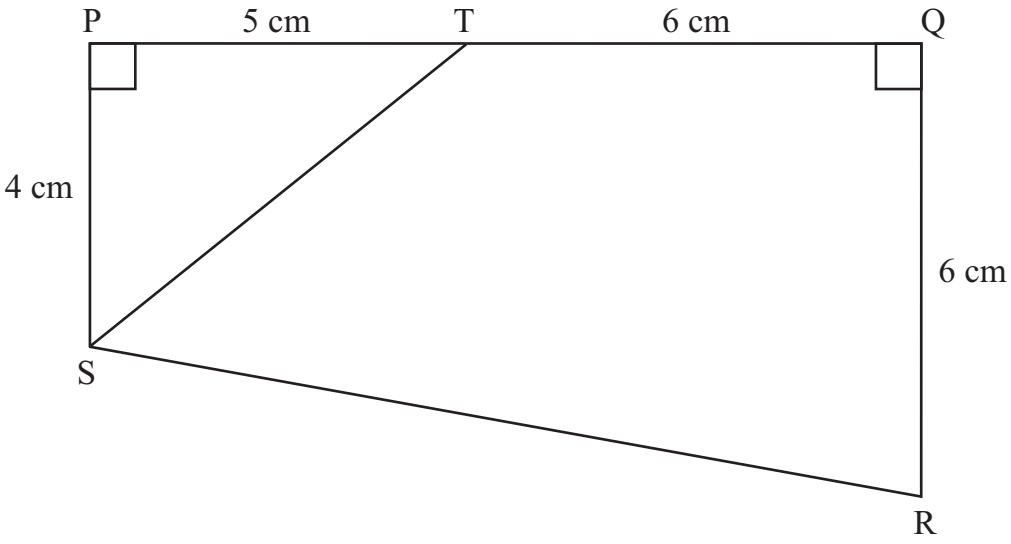
Examiner Only	
Marks	Remark
Total Question 14	

[Turn over

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,

Answer _____ cm^2 [2]

(b) quadrilateral TQRS.

Answer _____ cm^2 [2]

Examiner Only	
Marks	Remark
Total Question 15	

16 Find the reciprocal of 1.2

Answer _____ [2]

Examiner Only | Marks | Remark

Total Question 16

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

Answer _____ [3]

Total Question 17

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?

Answer _____ [2]

Total Question 18

THIS IS THE END OF THE QUESTION PAPER

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For Examiner's use only	
Question Number	**Marks**
1	
2	
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Examiner Number