Centre Number

Candidate Number

cea
Rewarding Learning

General Certificate of Secondary Education
January 2014

Mathematics

Unit T5 Paper 1

(Non-calculator)
Foundation Tier

[GMT51]

ML

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.
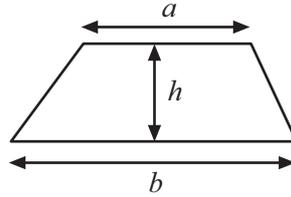Functional Elements will be assessed in this paper.
Quality of written communication will be assessed in **question 11**.
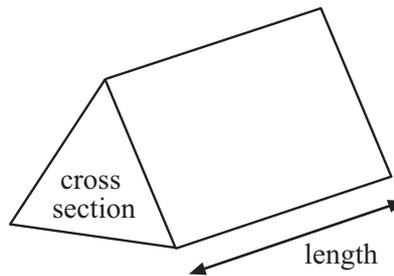You should have a ruler, compasses and a protractor.
The Formula Sheet is on page 2.

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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 you can buy for £48 if each book costs £7.95

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.

Total Question 1

Answer _____ [1]

[Turn over

2 Draw a line of symmetry on each shape below.

[2]

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4

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

(a)   mirror
line

[2]

(b)

mirror line

[2]   **[Turn over**

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5
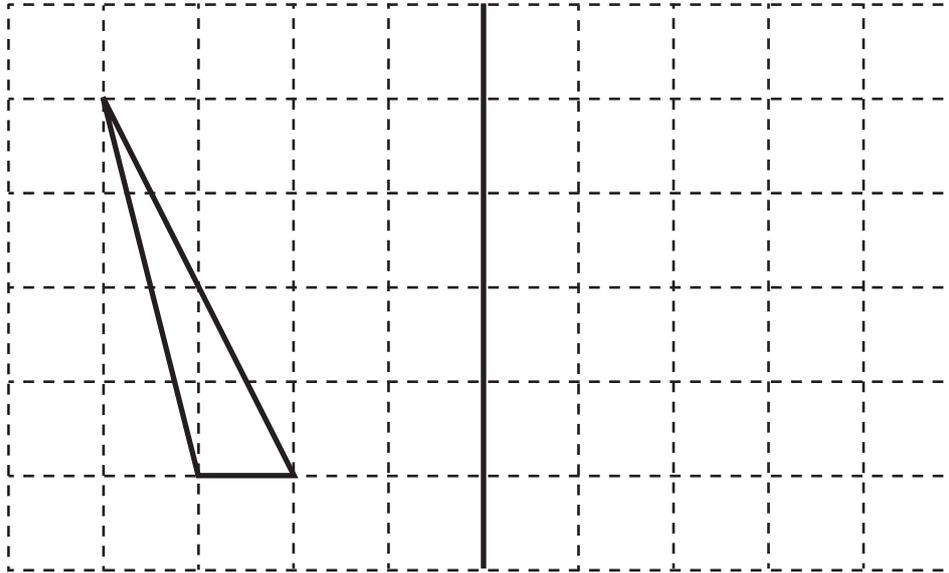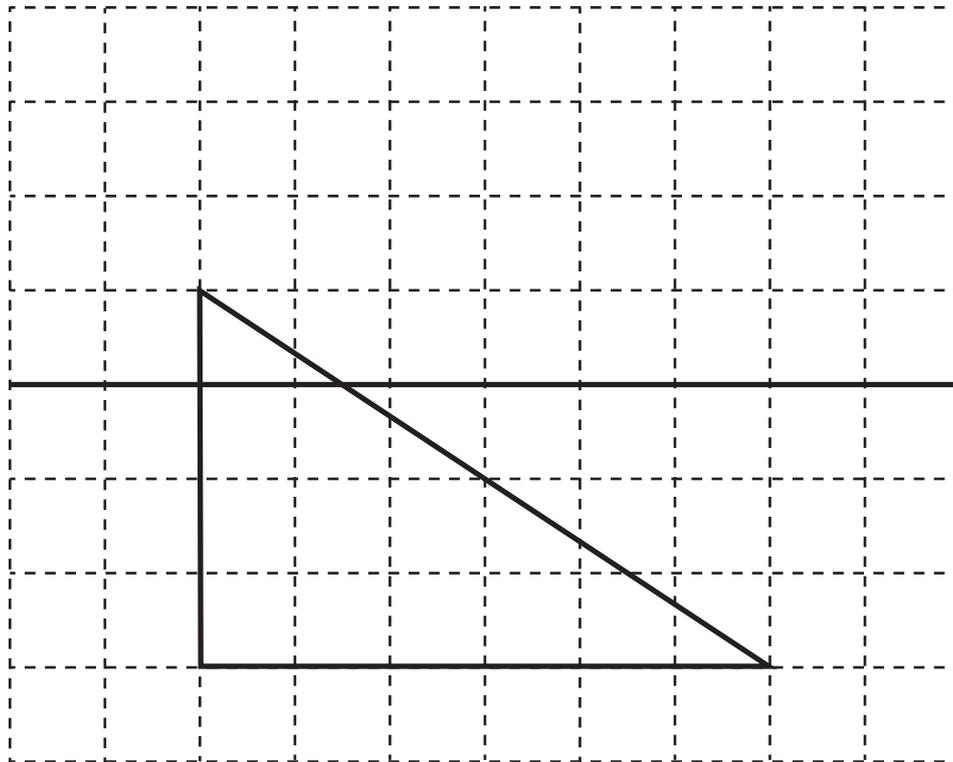
4 Molly works out that the telephone calls to her house are:

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 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.
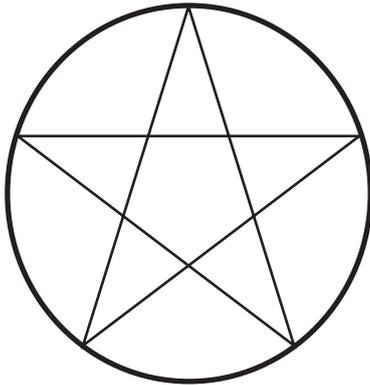Work out his pay for that day.

Answer £ _____ [2]   Total Question 5

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6

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

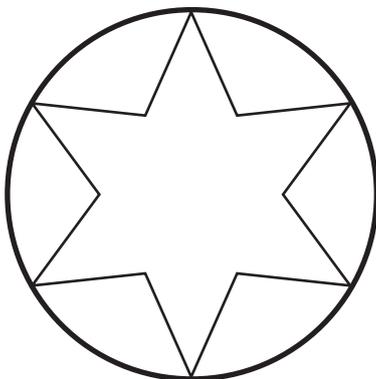Answer _____ [1]

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.

Total Question 7

[1]

[Turn over

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

(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]

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

Answer _____ [2]

10 Each letter of the alphabet is written on a tile. The 26 tiles are put in a bag.
One tile is chosen at random from the bag.

(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]

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."

Use an example to show that Peter is not correct.

[2]

Total Question 11

[Turn over

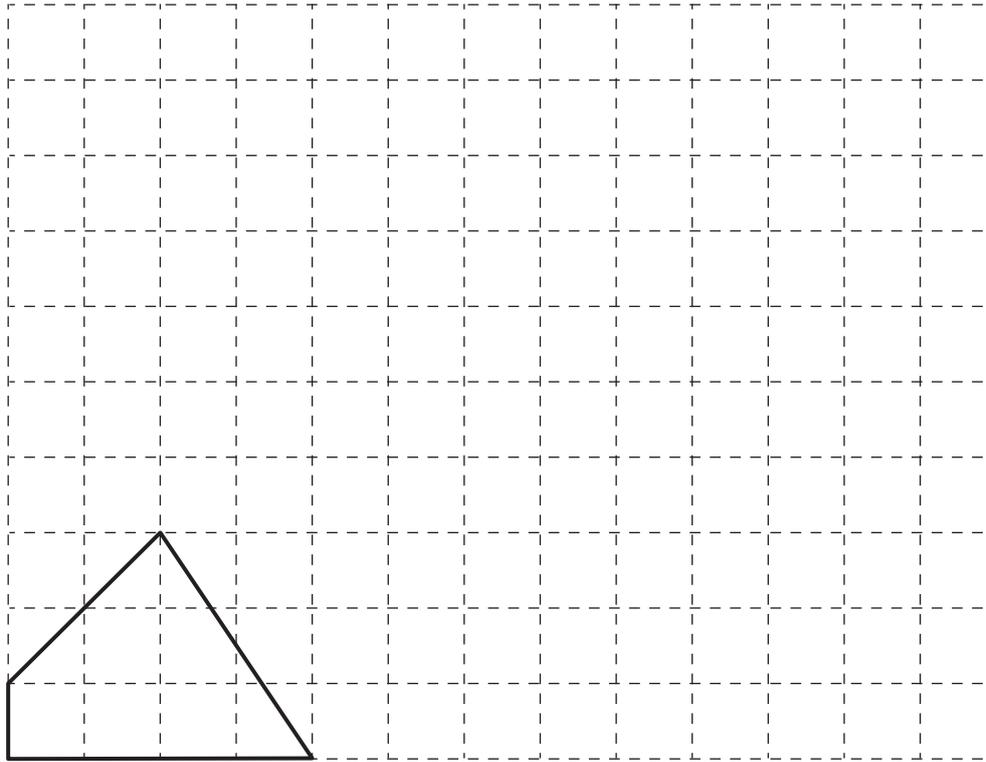**12** Write down how many significant figures there are in

(a) 603.9

Answer _____ [1]

(b) 0.00067

Answer _____ [1]

13 Enlarge the shape below by scale factor 3

[2]

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10

14 Mr Davison plans a school trip. He uses the information below.

For every 20 pupils you will need

        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?

_____ bottles of milk

_____ rounds of sandwiches
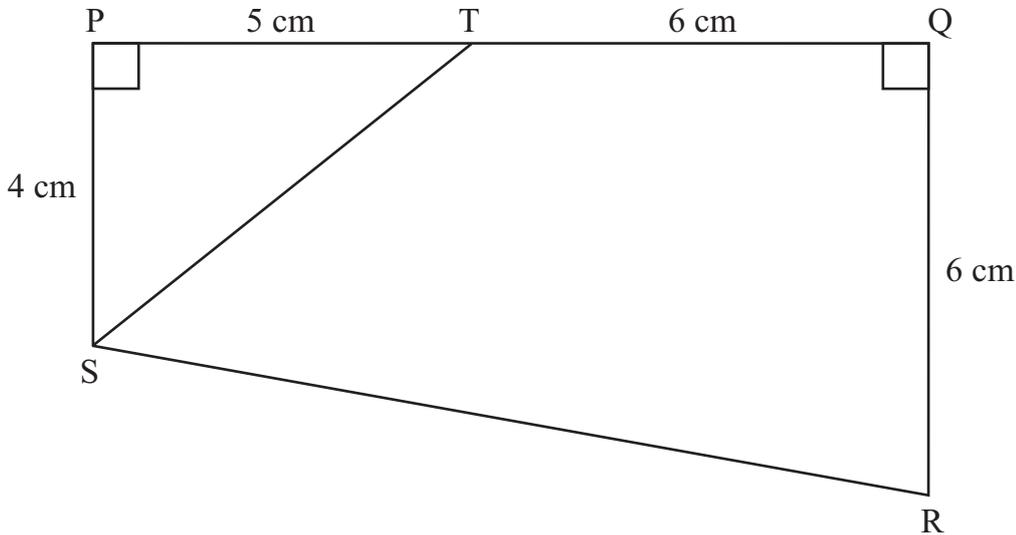
_____ bars of chocolate   [3]

Examiner Only	
Marks	Remark

Total Question 14

[Turn over

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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.

Diagram not
drawn accurately

P   5 cm   T   6 cm   Q

4 cm

6 cm

S

R

(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

Answer _____ [2]

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 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 Question 18

Answer _____ [2]

THIS IS THE END OF THE QUESTION PAPER

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