Rewarding Learning

## Mathematics

## Unit T5 Paper 2

 Foundation Tier
[GMT52]


FRIDAY 30 MAY, $3.00 \mathrm{pm}-4.00 \mathrm{pm}$

## 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 may 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 8.
You should have a calculator, 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 $\times$ length


1 Look at the list of words, in bold, below.
Impossible
Unlikely
Evens
Likely
Certain

From the list, write the word that best describes the probability of
(a) rolling a score of less than 5 on a fair dice,
(b) the winning time in the 2016 Marathon being under 3 minutes, $\qquad$
(c) choosing a letter at random from the letters in the word 'bear' and getting a vowel. $\qquad$

2 I have $£ 2.75$. Apples cost 38 p each. Estimate how many apples I can buy. Show your working out clearly.

> Answer
$\qquad$ apples [2]

3 The picture shown below is a speedometer on a car.

(a) Write down the speed that the arrow is pointing to.

Answer $\qquad$ $\mathrm{km} / \mathrm{hr}$ [1]
(b) Mark clearly with an arrow a speed of $83 \mathrm{~km} / \mathrm{hr}$.

| Examiner Only |  |
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| Marks | Remark |
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4

(a) Draw the reflection of this shape in the mirror line.
(b) Now find the area of the whole shape.

Answer $\qquad$ $\mathrm{cm}^{2}$ [2]


5 A taxi firm displays their fares as shown

> | Fixed charge of $£ 1.50$ |
| :---: |
| plus |
| 75 pence per mile |

(a) Joe's fare was $£ 10.50$

How many miles did he travel?

Answer $\qquad$ [2]
(b) $\boldsymbol{m}$ represents the number of miles travelled.

Which formula represents the fare F (in $£$ ) of the taxi firm?
Circle the correct answer.

$$
\begin{equation*}
\mathrm{F}=1.50 m+75 \quad \mathrm{~F}=150+75 m \quad \mathrm{~F}=1.50+0.75 m \quad \mathrm{~F}=1.50 m+0.75 \tag{1}
\end{equation*}
$$

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6

| Please send me | Number | Price | Sub Total |
| :--- | ---: | :--- | :---: |
| OM Olympics Mug |  | $£ 10.99$ |  |
| OH Olympics Ski Hat |  | $£ 16.49$ |  |
| OG Olympics Medallion |  | $£ 21.50$ |  |
| OS Souvenir Set |  | $£ 31.99$ |  |
| Special delivery |  |  |  |
|  |  | 6.85 |  |

Complete the mail order form for three Olympics mugs and one souvenir set, including Special delivery.

7 (a) Convert 26 kg to pounds (use $1 \mathrm{~kg} \approx 2.2$ pounds).

Answer $\qquad$ pounds [1]
(b) Convert 15 inches to cm (use 2 inches $\approx 5 \mathrm{~cm}$ ).

Answer $\qquad$ cm [2]
(c) Convert 250 km to miles.

Answer $\qquad$ miles [2]

## Quality of written communication is assessed in part (c) of this question.

8 A boy has a combination lock for his bicycle.
He knows the 3 digits needed to open the lock are 1, 4, and 7
He does not know which order to put them in.
(a) Fill in the boxes to show all the different ways he can arrange the 3 digits.

(b) He tries to guess his combination.

What is the probability he guesses right the first time?

Answer $\qquad$
(c) A girl knows her combination lock uses the numbers 5, 8, 8 She also guesses her combination.
Who has more chance of guessing their own combination right the first time, the boy or the girl? Explain your answer.
$\qquad$
$\qquad$
$\qquad$

9 Only two four-sided shapes have exactly two lines of symmetry and rotational symmetry of order 2
Name these two shapes.

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Answer $\qquad$ and $\qquad$ [2]

[^0]10 (a) Write 5.99 correct to 1 decimal place.

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| Total Question 10 |  |

(c) Write 0.06402 correct to 2 significant figures.

Answer $\qquad$
(b) Write 0.0362 correct to $\mathbf{3}$ decimal places.

Answer $\qquad$

1380 rail passengers bought tickets in a train station. 32 of these passengers were less than 30 years old.
If 5000 passengers bought tickets at this station, estimate how many passengers would be less than 30 years old.

Answer £ $\qquad$ [2]
12 The exchange rate between sterling and euro is $£ 1=€ 1.20$
(1 pound = 1.20 euro).
A kite costs $€ 15$
How much does the kite cost in pounds (£)?
Answer $\qquad$ [1]
11 Find a number which makes this statement correct.
number $+3=$ number $\times 3$
Answer $\qquad$

Total Question 11 |  |  |
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14 (a) Find the area of this trapezium.


Answer $\qquad$ $\mathrm{cm}^{2}$ [2]
(b) The trapezium above is the cross section of a prism of rock. The prism of rock measures 78 cm from front to back. The density of this rock is $20 \mathrm{~g} / \mathrm{cm}^{3}$.

Calculate the mass of the prism of rock.

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Answer $\qquad$ g [3]


15


Draw and shade the image of the triangle after a reflection in the line $y=1$

16 John and Mary share $£ 840$ in the ratio 2:5 How much more money does Mary get than John?

| Examiner Only |  |
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17 Find the reciprocal of 1.4
Write your answer as a fraction in its simplest terms.

Answer $\qquad$ [2]


18 Simplify $k^{3} \times k^{3}$

## THIS IS THE END OF THE QUESTION PAPER

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## For Examiner's

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