Centre Number

Candidate Number

cea

Rewarding Learning

**General Certificate of Secondary Education
2014**

Mathematics

Unit T5 Paper 2

(With calculator)
Foundation Tier

[GMT52]

GMT52

FRIDAY 30 MAY, 3.00 pm–4.00 pm

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 **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.
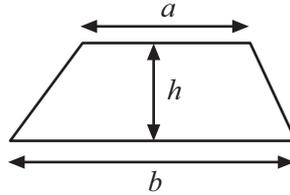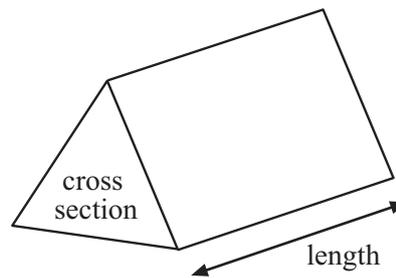The Formula Sheet is on page 2.

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16GMT5201

Formula Sheet

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

Volume of prism = area of cross section × length

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1   **Impossible**   **Unlikely**   **Evens**   **Likely**   **Certain**

From the list of words given above, write the most appropriate word to describe the probability of

(a) rolling a score of less than 5 on a fair dice,   ——————— [1]

(b) the winning time in the 2016 Marathon being
under 3 minutes,   ——————— [1]

(c) choosing a letter at random from the letters in
the word 'bear' and getting a vowel.   ——————— [1]

2   Estimate how many apples each costing 38 pence I can buy with £2.75
Show your working clearly.

Answer _____ apples [2]

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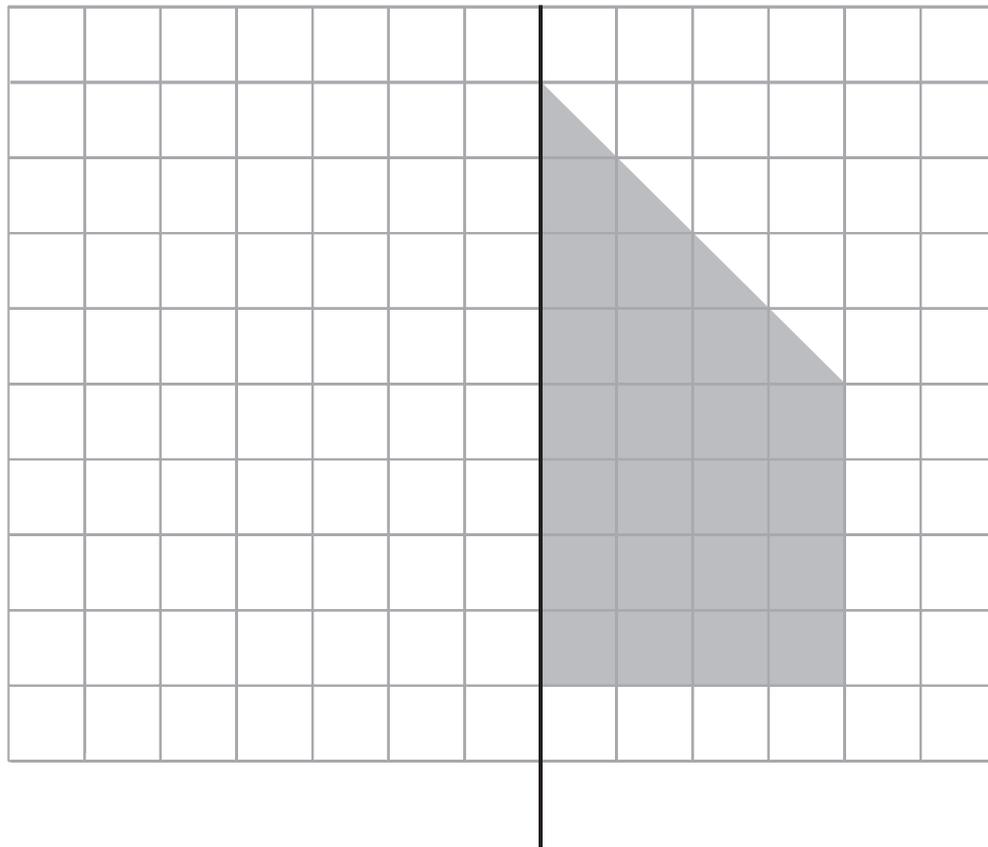**3** The picture shown below is a speedometer on a car.

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

Answer _____ km/hr [1]

(b) Mark clearly with an arrow a speed of 83 km/hr.

[1]

Total Question 3

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4

mirror
line

(a) Draw the reflection of this shape in the mirror line. [2]

(b) Now find the area of the whole shape.

Total Question 4

Answer _____ cm^2 [2]

[Turn over

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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 _____ [2]

(b) Which formula represents the fare F (in £) of the taxi firm, where *m* represents the number of miles travelled?
Circle the correct answer.

$F = 1.50m + 75$ $F = 150 + 75m$ $F = 1.50 + 0.75m$ $F = 1.50m + 0.75$

[1]

Total Question 5

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
		Total £	

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

[3]

Total Question 6

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7 **(a)** Convert 26 kg to pounds (use 1 kg ≈ 2.2 pounds).

Answer _____ pounds [1]

(b) Convert 15 inches to cm (use 2 inches ≈ 5 cm).

Answer _____ cm [2]

(c) Convert 250 km to miles.

Answer _____ miles [2]

Total Question 7

[Turn over

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

8 Michael 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.

1 4 7	4 1 7	

[2]

(b) Michael tries to guess his combination.
What is the probability he guesses right the first time?

Answer _____ [2]

(c) Pam knows her combination lock uses the numbers 5, 8, 8
She also guesses her combination.
Which of Pam or Michael has more chance of guessing their own combination right the first time? Explain your answer.

_____

_____

_____ [2]

Total Question 8

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

Total Question 9

Answer _____ and _____ [2]

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10 (a) Write 5.99 correct to **1 decimal place.**

Answer _____ [1]

(b) Write 0.0362 correct to **3 decimal places.**

Answer _____ [1]

(c) Write 0.06402 correct to **2 significant figures.**

Answer _____ [1]

11 Find a number which makes this statement correct.

number + 3 = number × 3

Answer _____ [1]

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 £ _____ [2]

13 In a survey of ages of 80 rail passengers buying tickets in a train station, 32
were under the age of thirty.
5000 passengers bought tickets at this station. Estimate how many were
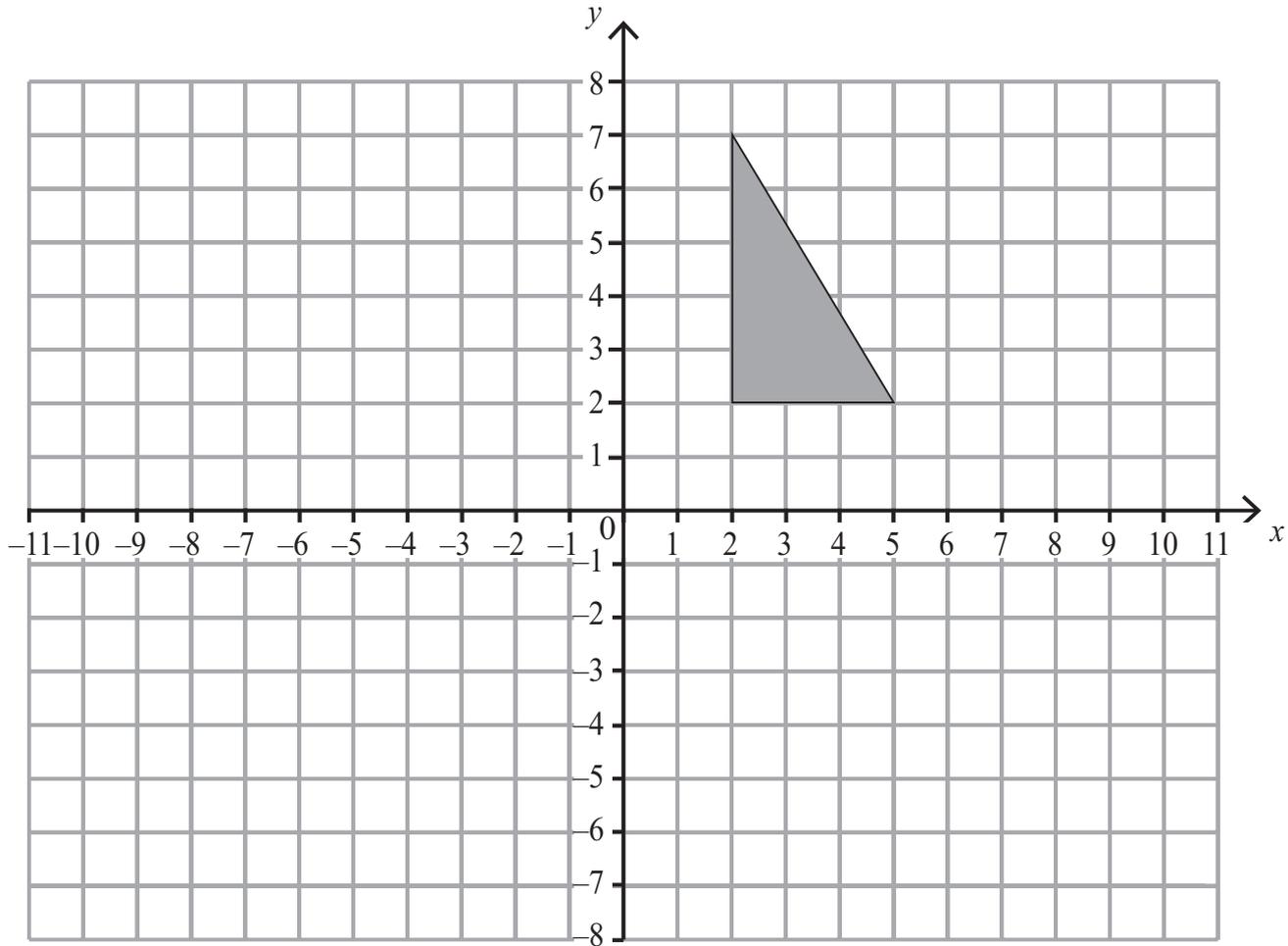aged under thirty.

Answer _____ [2]

Examiner Only	
Marks	Remark

Total Question 10

Total Question 11

Total Question 12

Total Question 13

[Turn over

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14 (a) Find the area of this trapezium.

Answer _____ cm^2 [2]

(b) The trapezium in part **(a)** is the cross section of a prism of rock which measures 78 cm from front to back. The density of this rock is 20 g/cm^3.

Calculate the mass of the prism of rock.

Answer _____ g [3]

Total Question 14

16GMT5210

15

Draw and shade the image of the triangle after a reflection in the line $y = 1$ [2]

[Turn over

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16 Alex and Bethany share £840 in the ratio 2 : 5
How much more money does Bethany get than Alex?

Answer £ _____ [2]

Total Question 16

17 Find the reciprocal of 1.4
Give your answer as a fraction in its simplest terms.

Answer _____ [2]

Total Question 17

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

Answer _____ [1]

_____

THIS IS THE END OF THE QUESTION PAPER

_____

Total Question 18

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