Rewarding Learning

**General Certificate of Secondary Education
2013**

Mathematics

Unit T5 Paper 2

(With calculator)

Foundation Tier

[GMT52]

GMT52

FRIDAY 14 JUNE 10.45 am–11.45 am

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 fifteen** 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.
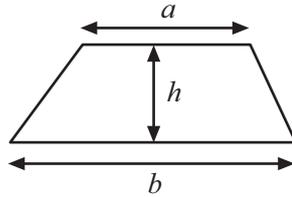Quality of written communication will be assessed in **question 9**.
You should have a calculator, ruler, compasses and a protractor.
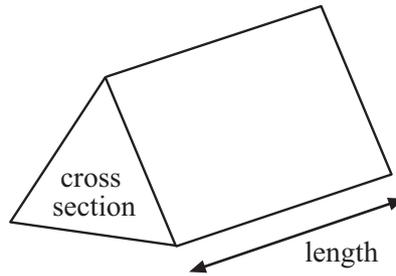The Formula Sheet is on page 2.

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Formula Sheet

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

Volume of prism = area of cross section × length

16GMT5202

1   From the words below select the most suitable for each of the following.

Certain	Impossible	Very Likely	Likely
Unlikely	Evens	Very Unlikely	

(a) The probability of getting an even number on one throw of an ordinary dice.

Answer _____ [1]

(b) The probability that 2016 is a leap year.

Answer _____ [1]

(c) The probability that two men who meet each other in a supermarket have the same birthday.

Answer _____ [1]

(d) The probability that you would take a yellow ball from a bag containing 5 red and 4 black balls.

Answer _____ [1]

Total Question 1

[Turn over

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2 **(a)** Complete the following shopping bill by filling in the blanks.

5 bananas at 29p each .... £ ⎯⎯⎯⎯⎯⎯

6 oranges at 33p each .... £ ⎯⎯⎯⎯⎯⎯

8 apples at 27p each .... £ ⎯⎯⎯⎯⎯⎯

TOTAL: £ ⎯⎯⎯⎯⎯⎯

[3]

(b) Mrs Winter used 1246 units of electricity during one quarter of the year.
Each unit of electricity cost 7.5p.
Find the total cost of her electricity usage, in pounds, for that quarter.

Answer £ ⎯⎯⎯⎯⎯⎯ [2]

Total Question 2

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3 A letter is taken at random from the word ASSESSMENTS

(a) Which letter is most likely to be taken?

Answer _____ [1]

(b) Which letters are equally likely to be taken?

Answer _____ [2]

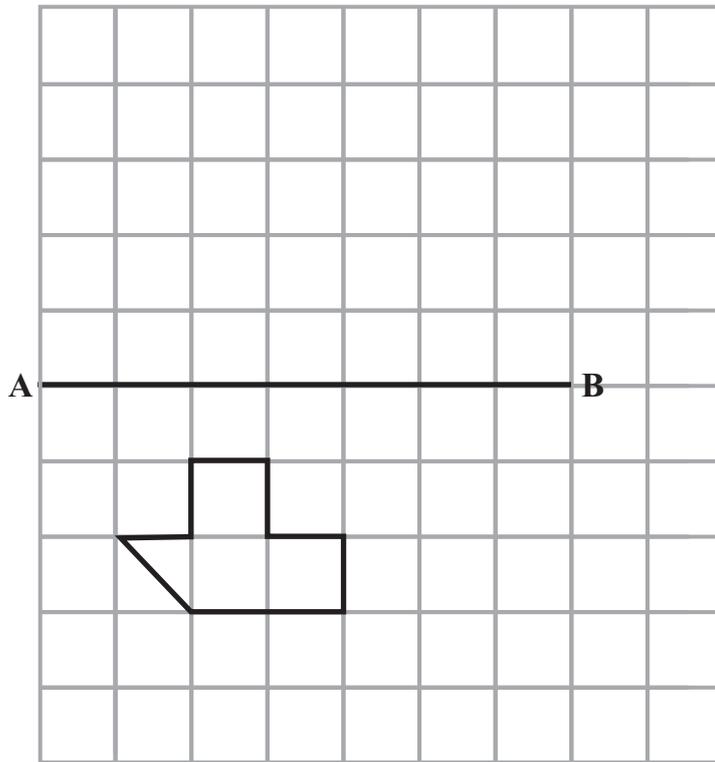**(c)** What is the probability of taking the letter Q?

Answer _____ [1]

Total Question 3

[Turn over
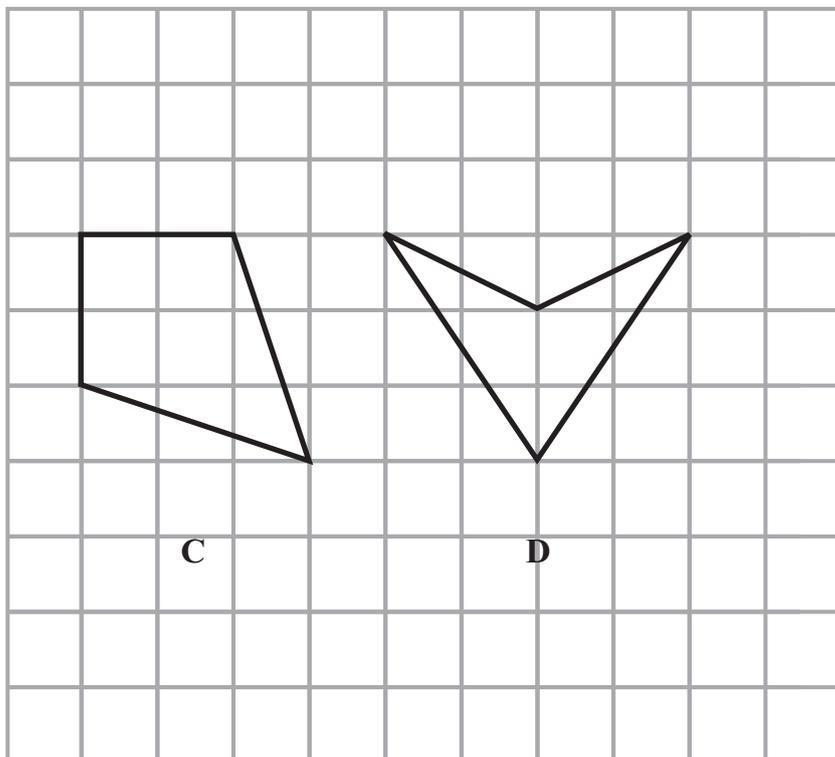
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4

A |————————————————————————| B

(a) Draw the reflection of the shape in the line AB above. [2]

(b) Draw the line of symmetry in shape C and the line of symmetry in shape D below. [2]

C   **D**

Total Question 4

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5 **(a)** Rae earned a bonus of 3% on her monthly sales of £15 500 in April.

Work out the amount of her bonus.

Answer £ _____ [2]

(b) A building supplier hires out ladders.
The hire charge is £13.25 per day.
There is also a delivery charge of £22.50
Eamon wants to hire a ladder for 5 days.
Work out how much it will cost him in total for hire and delivery.

Answer £ _____ [2]

6 There were 40 tickets sold in a raffle numbered from 101 up to 140

What is the probability that a ticket with a number greater than 125 will win the raffle?

Answer _____ [2]

Examiner Only	
Marks	Remark

Total Question 5

Total Question 6

[Turn over

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7 **(a)** The weight of a new baby was recorded as 4 kg.
What is this weight in pounds?

Answer _____ pounds [2]

(b) John bought a 3 litre carton of milk.
How many pints is this?

Answer _____ pints [2]

(c) A car travelled a distance of 92 km.
How far is this in miles?

Answer _____ miles [2]

Total Question 7

8

For the shape shown, write down

(a) the number of lines of symmetry,

Answer _____ [1]

(b) the order of rotational symmetry.

Total Question 8

Answer _____ [1]

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Quality of written communication will be assessed in this question.

9 At Heathrow airport a bottle of water costs £1.85
At Orly airport in Paris the same size bottle of water costs 2 euro.
There are 1.11 euro to £1
In which airport does the bottle of water cost more?
You must show working to justify your answer.

Answer _____ [3]

Total Question 9

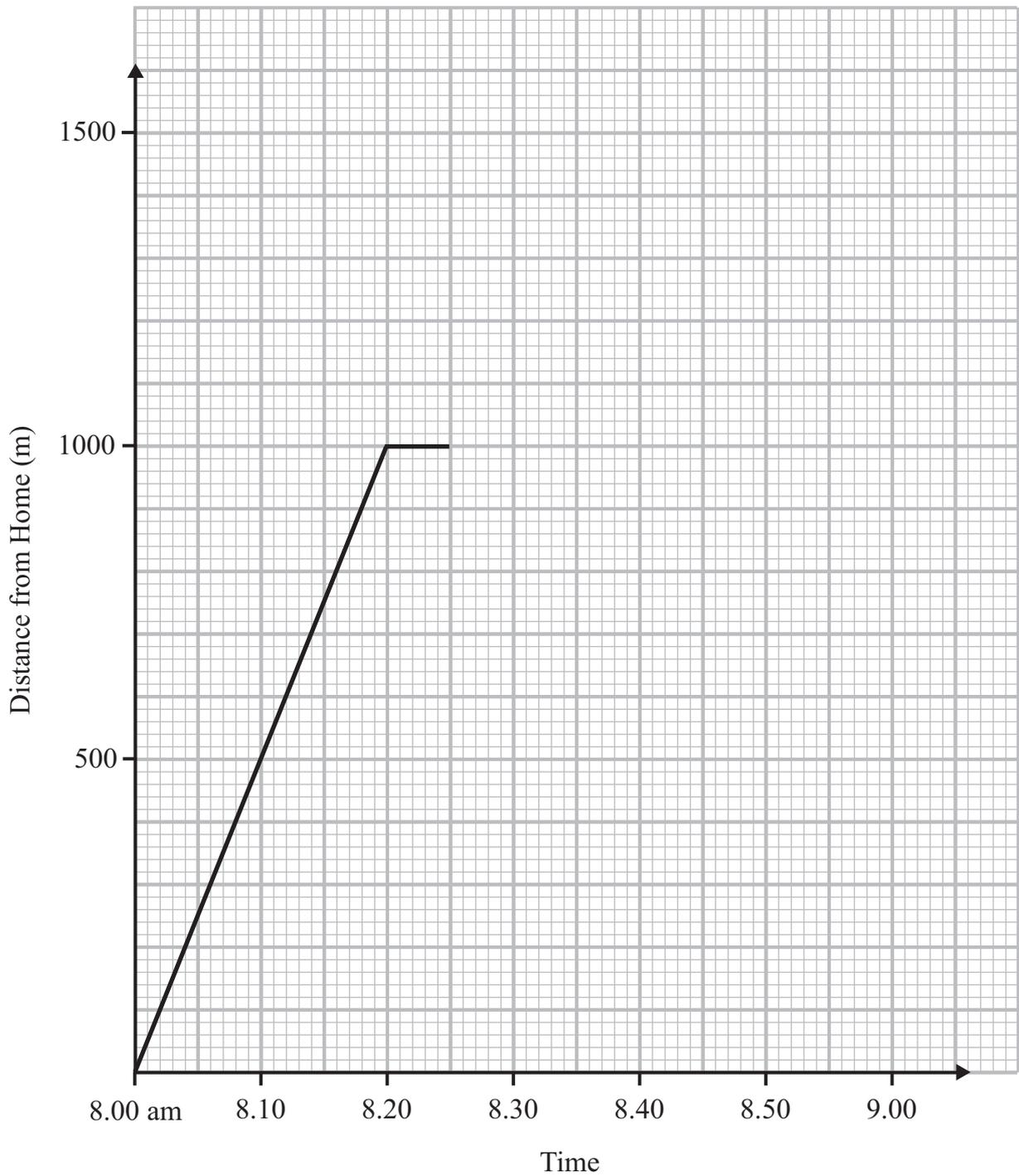**[Turn over**

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10 On the way to school Sean stops at the shop. When he goes to pay for a drink he finds he has forgotten his money. He runs back home to get it.

The graph shows part of his journey.

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(a) How far is the shop from Sean's home?

Answer _____ m [1]

Sean arrives back home at 8.35 am.

(b) Show this part of his journey on the graph.   [1]

(c) What was Sean's average speed running home in km/h?

Answer _____ km/h [2]

On his way home Sean meets his sister Maura on her way to school.
She left home at 8.15 am and arrives in school which is 1500 m away at
8.50 am.

(d) Draw on the graph Maura's journey to school.   [1]

Total Question 10

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11 Use your calculator to find the value of

$$\frac{3.862 + 42.19}{23.17 - 5.967}$$

Give your answer correct to one decimal place.
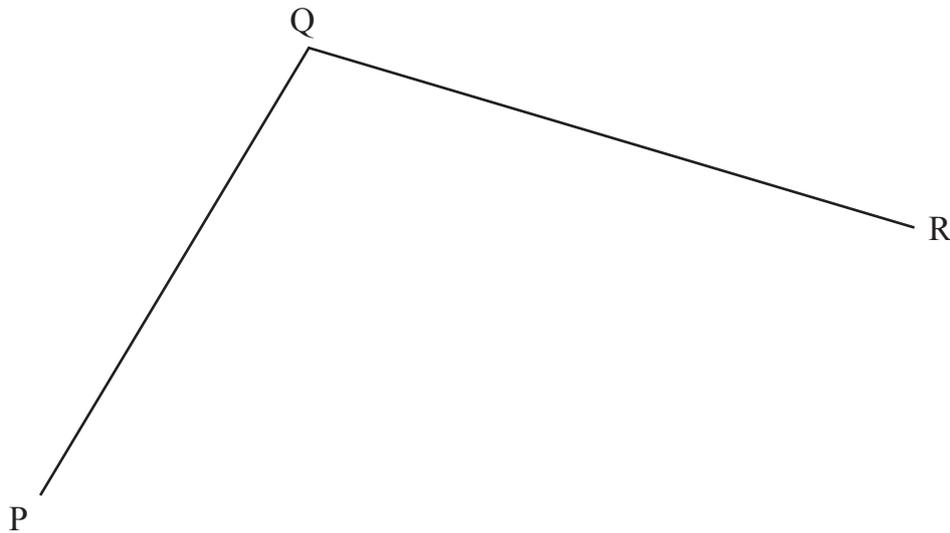
Total Question 11

Answer _____ [2]

[Turn over

12 Calculate the area of the trapezium shown.

24 cm

18 cm

10.5 cm
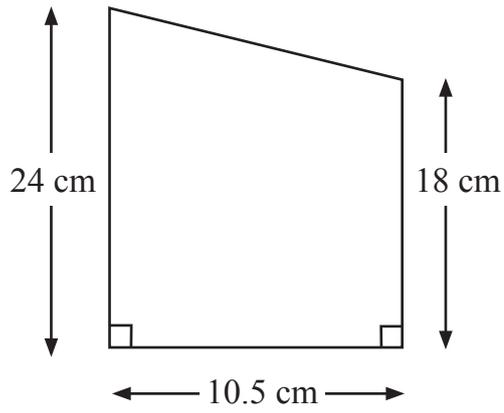
Answer _____ cm^2 [2]

Total Question 12

13 Using **ruler and compasses only** bisect the angle PQR shown.

Q

R

P

Total Question 13

[2]

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14 The angles in a triangle are in the ratio of   3 : 5 : 7

Work out the sizes of the angles in the triangle.

Answer _____ , _____ , _____ [3]

	Examiner Only
Marks	Remark

Total Question 14

15 Solve $4x - 10 < 5$

Answer _____ [2]

THIS IS THE END OF THE QUESTION PAPER

Total Question 15

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