



Centre Number

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Candidate Number

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General Certificate of Secondary Education  
2015

# Mathematics

Unit T5 Paper 1

(Non-calculator)

Foundation Tier



\*GMT51\*

[GMT51]

**TUESDAY 26 MAY, 1.30 pm–2.30 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 boxed area on 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 Questions **2(b)** and **17**.

You should have a ruler, compasses and a protractor.

The Formula Sheet is on page 2.

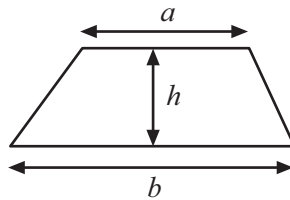
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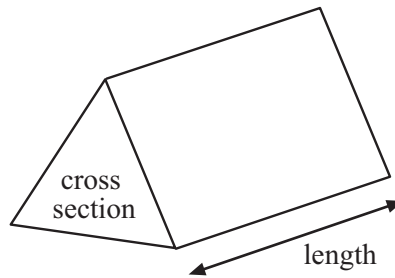
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# Formula Sheet

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



**Volume of prism** = area of cross section  $\times$  length



- 1 Michelle is making sandwiches for a party. She uses the formula below to calculate the number of sandwiches she should make.

$$\text{number of sandwiches} = \text{number of people} \times \text{four} + \text{sixty}$$

- (a) Use the formula to calculate how many sandwiches she should make for 145 people.

Answer \_\_\_\_\_ [2]

- (b) Michelle needs 145 cans of cola for the party.  
The cola can only be bought in packs of 12 at a cost of £4 per pack.  
How much will it cost Michelle to buy enough cola for the party?

Answer £ \_\_\_\_\_ [3]



Quality of written communication will be assessed in part (b) of this question.

2 A weather centre recorded the rainfall for July 2013 as 61.2 mm.

(a) Use this to **estimate** the total rainfall for 2013

Answer \_\_\_\_\_ mm [2]

(b) Comment on how good this estimate is likely to be.

\_\_\_\_\_  
\_\_\_\_\_ [2]

3 A rectangular room measures 475 cm by 295 cm.

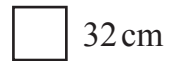
**Estimate** the number of square tiles of side 32 cm needed to tile the floor.

**Show all your working clearly.**



475 cm

295 cm



32 cm

Answer \_\_\_\_\_ [3]



4 From the list of words given, write the best word to describe the chance of these events happening:

**Impossible   Unlikely   Evens   Likely   Certain**

(a) a day of the week does not have a letter y

Answer \_\_\_\_\_ [1]

(b) a light bulb will 'blow' when the light is switched on.

Answer \_\_\_\_\_ [1]

(c) getting an odd number on one roll of a dice.

Answer \_\_\_\_\_ [1]

5 Write a number in each box to make the calculation correct.

(a)  $4 \times \square + 6 = 38$  [1]

(b)  $4 \times 6 + \square = 38$  [1]

(c)  $4 \times \square - 6 = 38$  [1]

**[Turn over**



- 6 A drill costs £38.50 plus 20% VAT.  
Calculate the VAT.

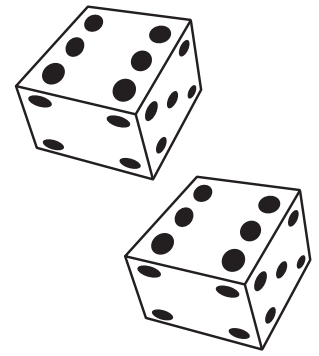
Answer £ \_\_\_\_\_ [2]

- 7  $n$  represents any whole number.  
 $n$  and the next whole number on the number line and the next one after that are added together.  
What type of whole number is the answer?  
**Show your working clearly.**

Answer \_\_\_\_\_ [2]



8 To start a game, Darragh must score a **total** of either 2 or 5 or 7 from throwing two fair dice.



(a) Complete the table to show all the possible totals.

+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5				
4	5	6				
5	6	7				
6	7	8				

[2]

(b) What is the probability of Darragh getting started straight away?

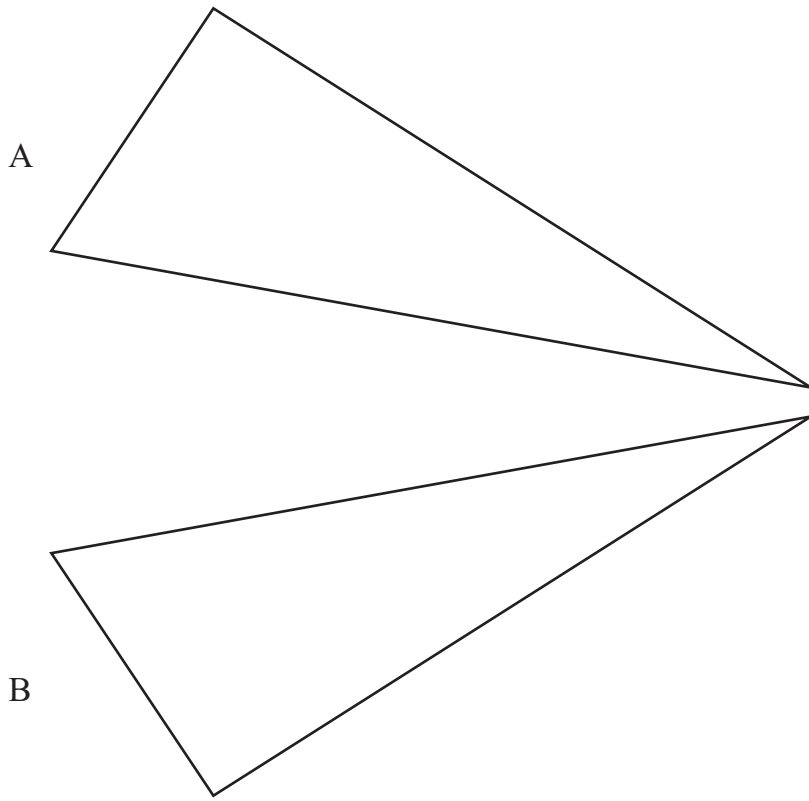
Answer \_\_\_\_\_ [2]

[Turn over



9 Triangle A is reflected in a line to give its image Triangle B.

Draw the line of reflection.

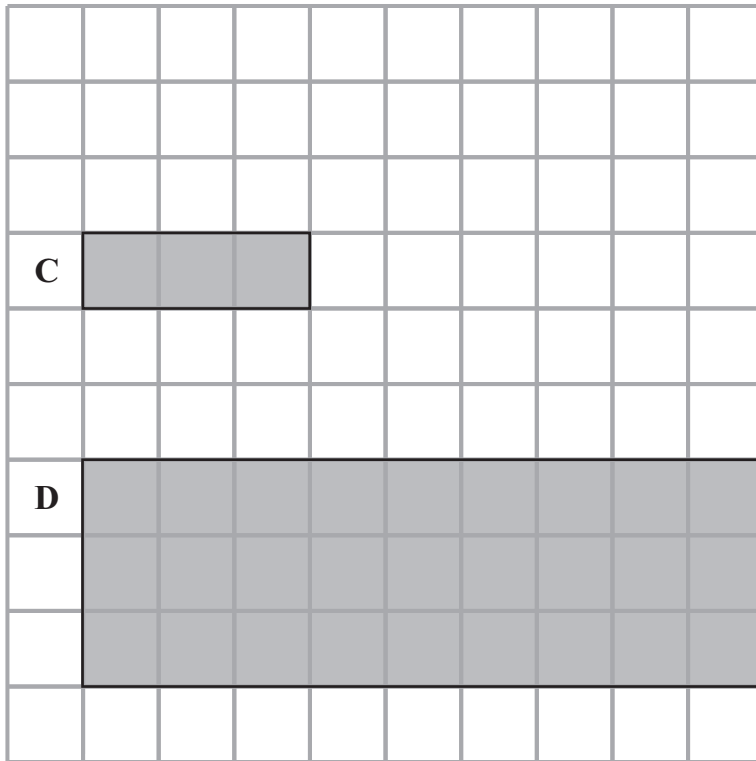


[1]





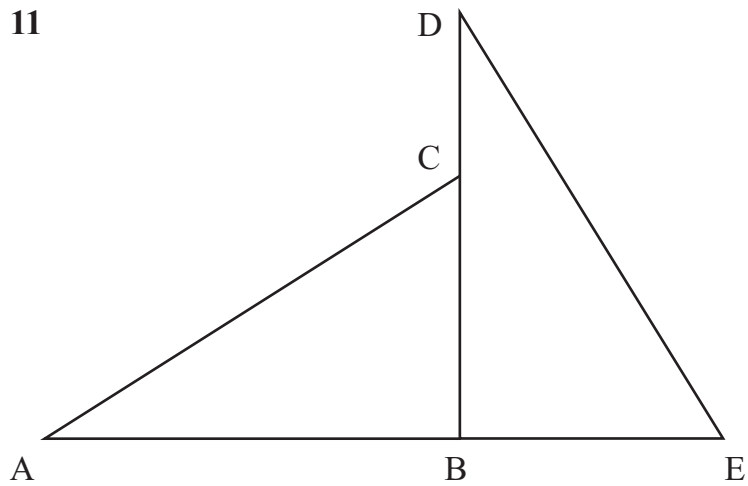
10 Rectangle C is enlarged to give rectangle D.  
What is the scale factor of enlargement?



Answer \_\_\_\_\_ [1]



11



Triangle ABC is rotated  $90^\circ$  clockwise about B.

(a) Name a side equal in length to BC.

Answer \_\_\_\_\_ [1]

(b) Name an angle equal in size to angle BAC.

Answer \_\_\_\_\_ [1]



12 A bag contains 21 pieces of fudge.  
6 pieces are vanilla and 8 pieces are walnut. The rest are raisin.  
Josh takes a piece of fudge at random from the bag.  
What is the probability that it is

(a) not vanilla,

Answer \_\_\_\_\_ [1]

(b) raisin?

Answer \_\_\_\_\_ [1]

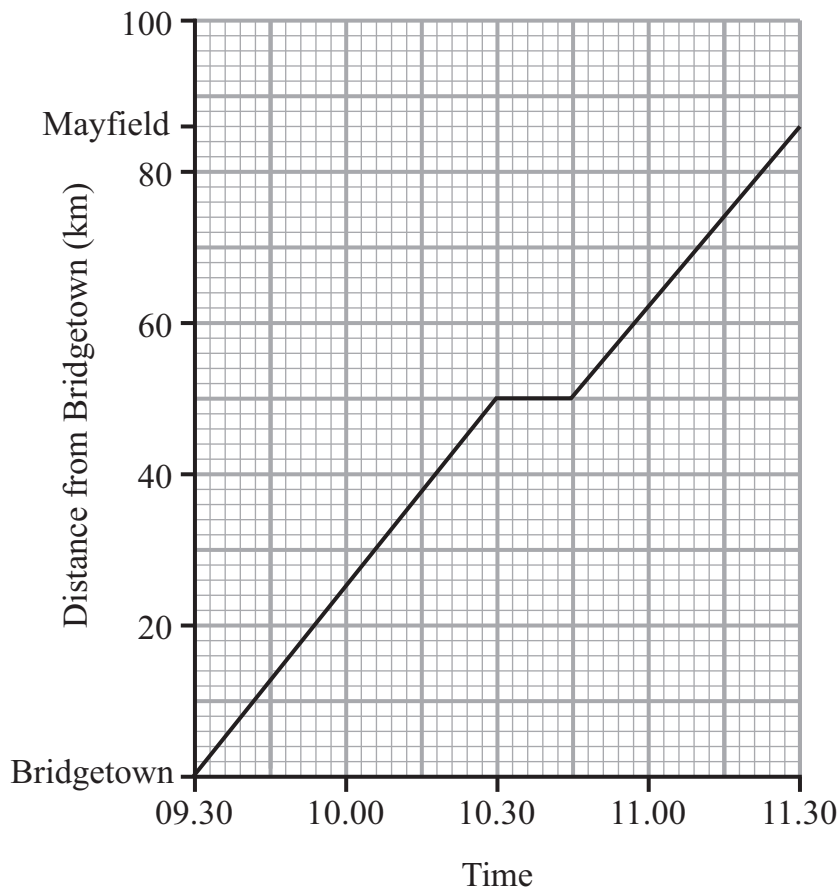
13 £ $X$  is shared equally among  $c$  children.  
Write down a **formula** for the amount £ $A$  that each child should receive.

Answer \_\_\_\_\_ [2]

[Turn over



14 The graph shows a journey by coach from Bridgetown to Mayfield.



(a) Give a practical explanation for the horizontal line on the graph.

Answer \_\_\_\_\_  
\_\_\_\_\_ [1]

(b) Calculate the average speed for the complete journey from Bridgetown to Mayfield.

Answer \_\_\_\_\_ [3]



15 Given that  $32.5 \times 24 = 780$ , write down the value of

(a)  $32.5 \times 2.4$

Answer \_\_\_\_\_ [1]

(b)  $78 \div 24$

Answer \_\_\_\_\_ [1]

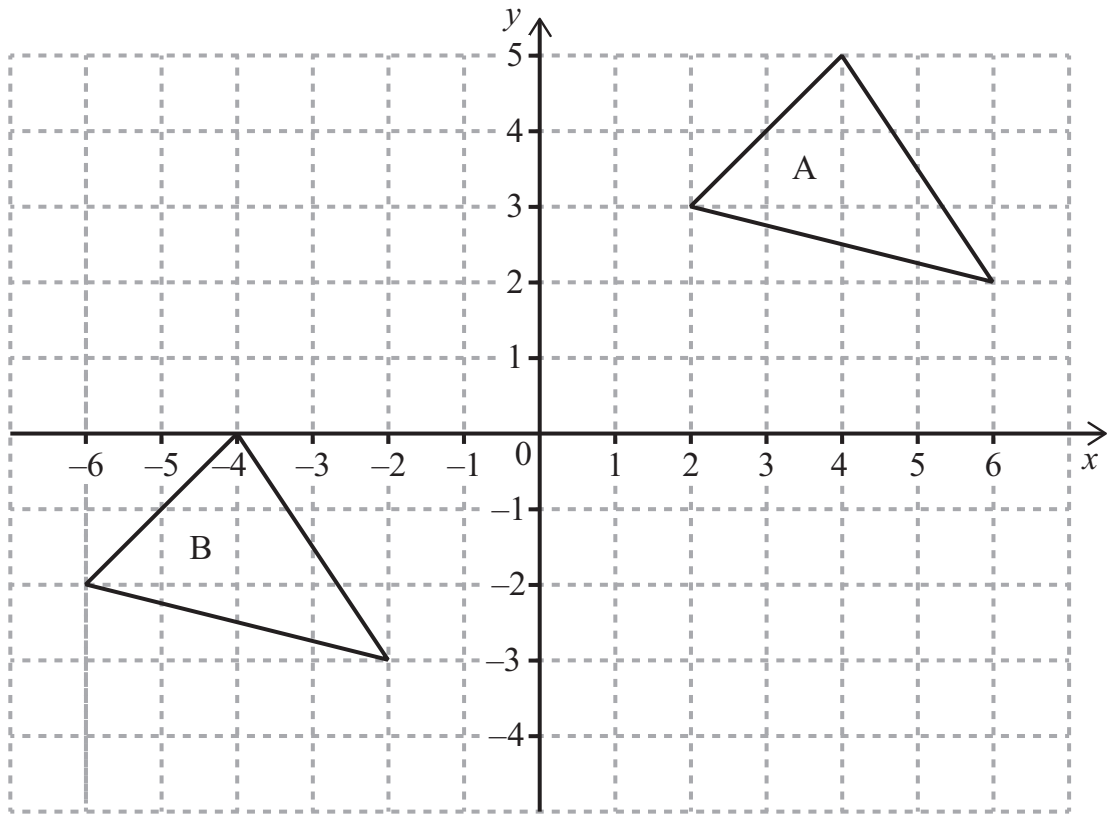
(c)  $32.5 \times 12$

Answer \_\_\_\_\_ [1]

[Turn over



16 (a) Reflect triangle A in the line  $y = 1$



[2]

(b) Describe fully the single transformation that moves triangle A to triangle B.

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[2]

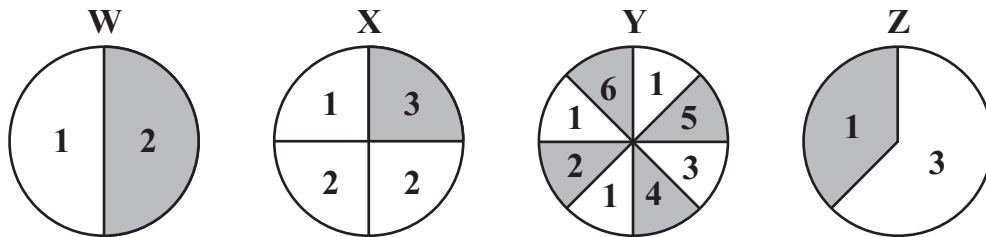


Quality of written communication will be assessed in this question.

17 Aidan, Ben and Caitlin all spin a spinner 20 times each. They keep track of their scores of 1, 2 and 3 using a tally chart.

	1	2	3
Aidan			
Ben			
Caitlin			

They all used the **same** one of the following four spinners.



Which spinner do you think they used?

**Explain clearly** why you have made this choice.

Answer Spinner \_\_\_\_\_ because \_\_\_\_\_

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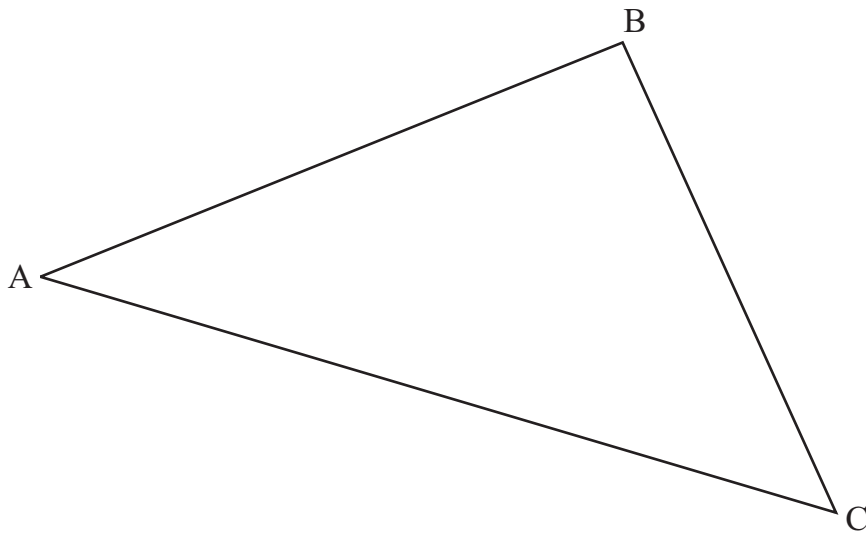
[3]

[Turn over



18 Use only a ruler and a pair of compasses to bisect the angle ABC in the triangle below.

Show all your construction arcs.



[2]

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**THIS IS THE END OF THE QUESTION PAPER**

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For Examiner's use only	
Question Number	Marks
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<b>Total Marks</b>	
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Examiner Number

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