Mathematics

Unit T5 Paper 1

(Non-calculator)
Foundation Tier

[GMT51]

TUESDAY 26 MAY, 1.30 pm–2.30 pm

Centre Number

Candidate Number

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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Formula Sheet

Area of trapezium = $\frac{1}{2}(a + b)h$
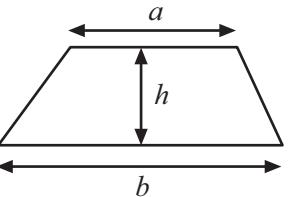
Volume of prism = area of cross section × length
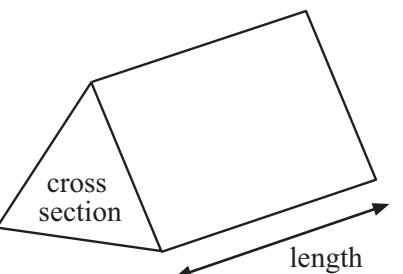
1 Michelle is making sandwiches for a party. She uses the formula below to calculate the number of sandwiches she should make.

number of sandwiches = number of people × four + 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]

[Turn over

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.

295 cm

475 cm

32 cm

Answer _____ [3]

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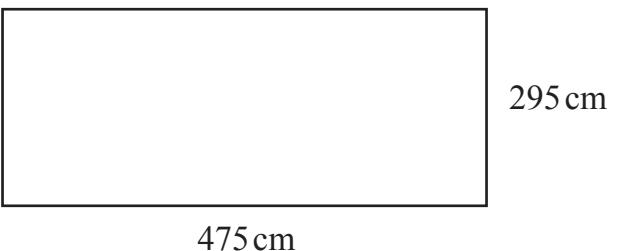
4 From the list of words given, write the best word to describe the chance of these events happening:

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) $4 \times \boxed{} + 6 = 38$ [1]

(b) $4 \times 6 + \boxed{} = 38$ [1]

(c) $4 \times \boxed{} - 6 = 38$ [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				
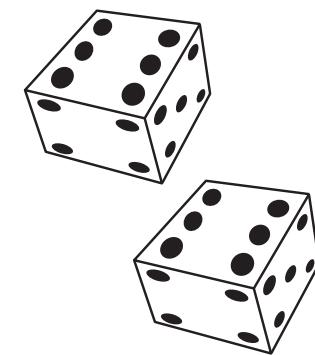
[2]

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

Answer _____ [2]

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

Draw the line of reflection.

[1]

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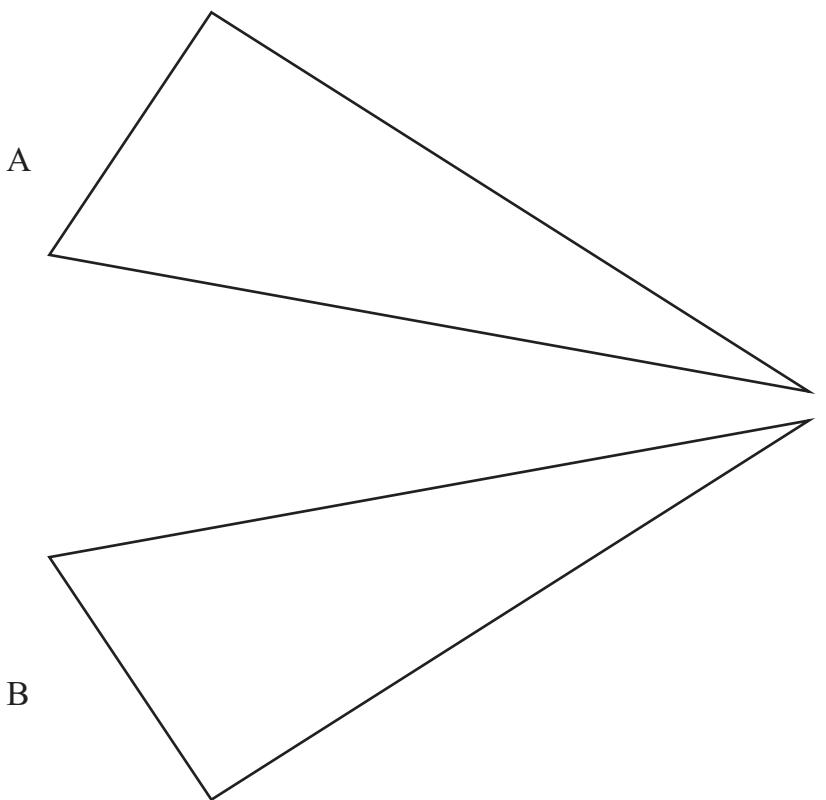
10 Rectangle C is enlarged to give rectangle D.
What is the scale factor of enlargement?

Answer _____ [1]

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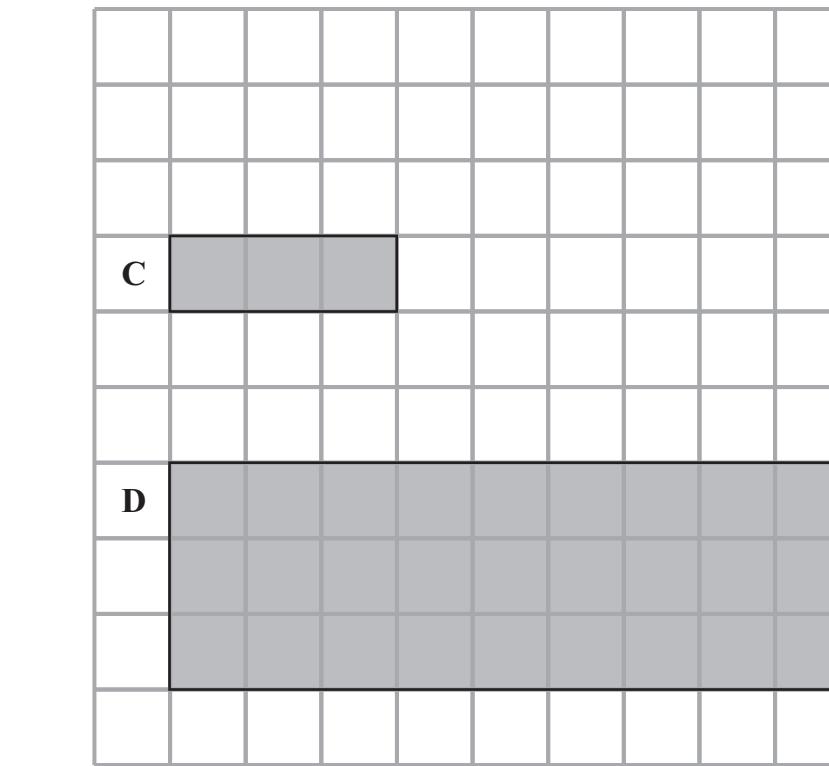
11
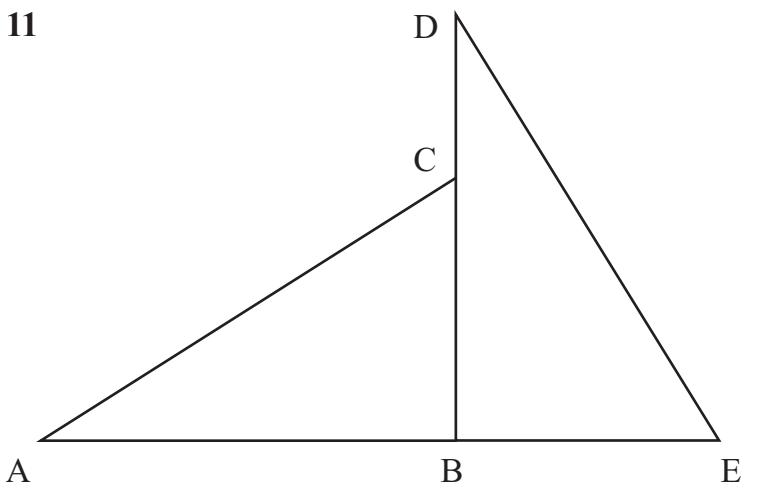
Triangle ABC is rotated 90° clockwise about B.

(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]

14 The graph shows a journey by coach from Bridgetown to Mayfield.
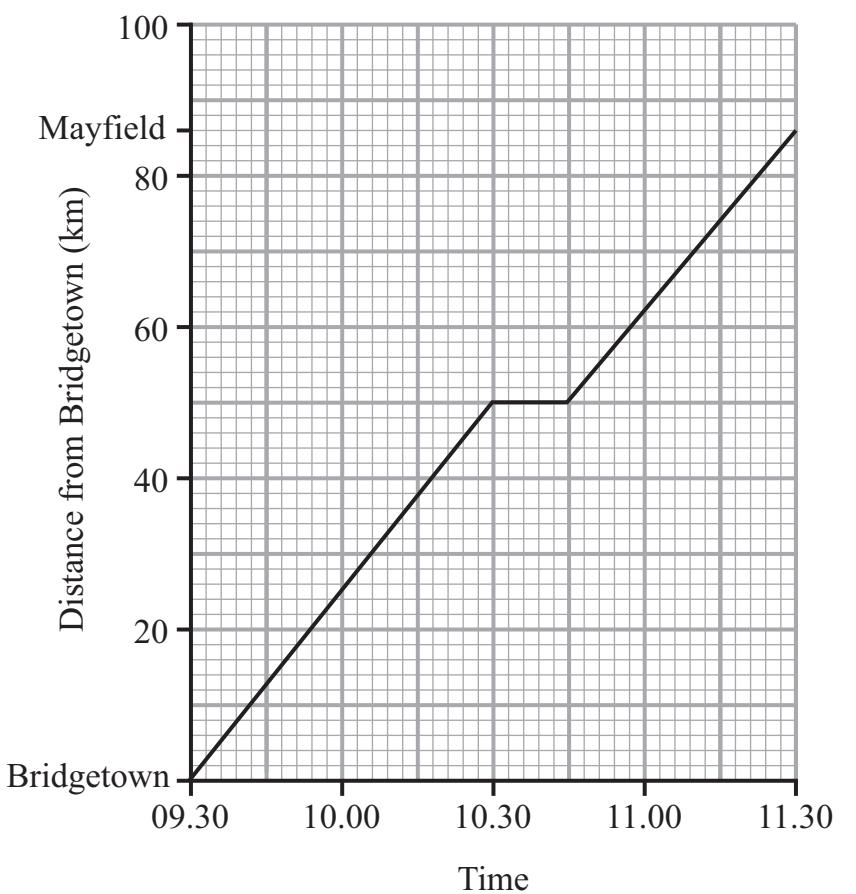
(a) Give a practical explanation for the horizontal line on the graph.

Answer _____

_____ [1]

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

Answer _____ [3]

9467

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

(a) 32.5×2.4

Answer _____ [1]

(b) $78 \div 24$

Answer _____ [1]

(c) 32.5×12

Answer _____ [1]

[Turn over

16 (a) Reflect triangle A in the line $y = 1$
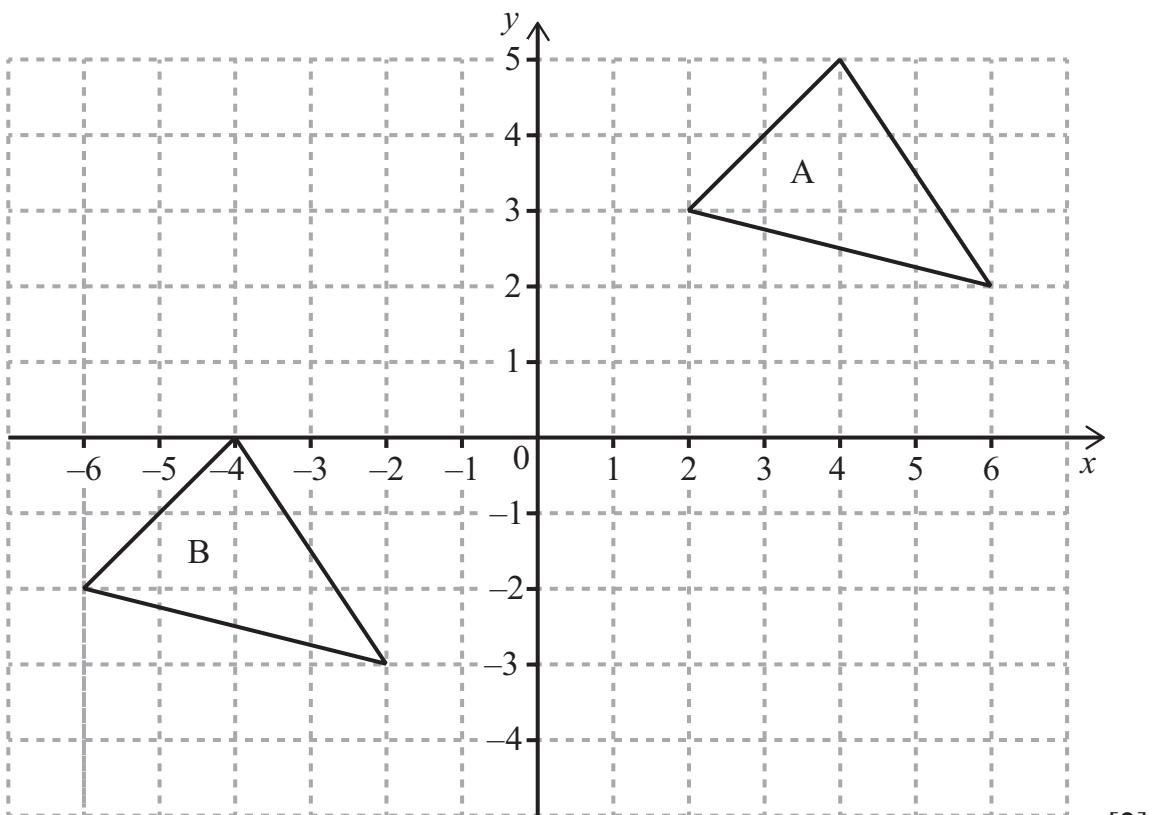
[2]

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

_____

_____ [2]

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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.
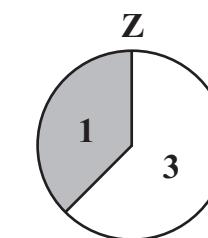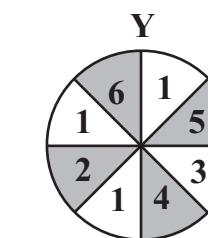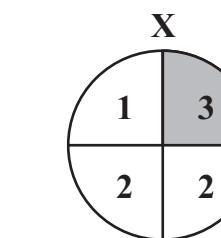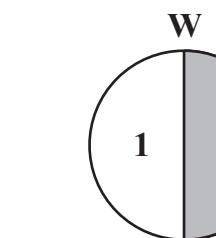
Which spinner do you think they used?

Explain clearly why you have made this choice.

Answer Spinner _____ because _____

_____

_____

_____ [3]

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

Show all your construction arcs.
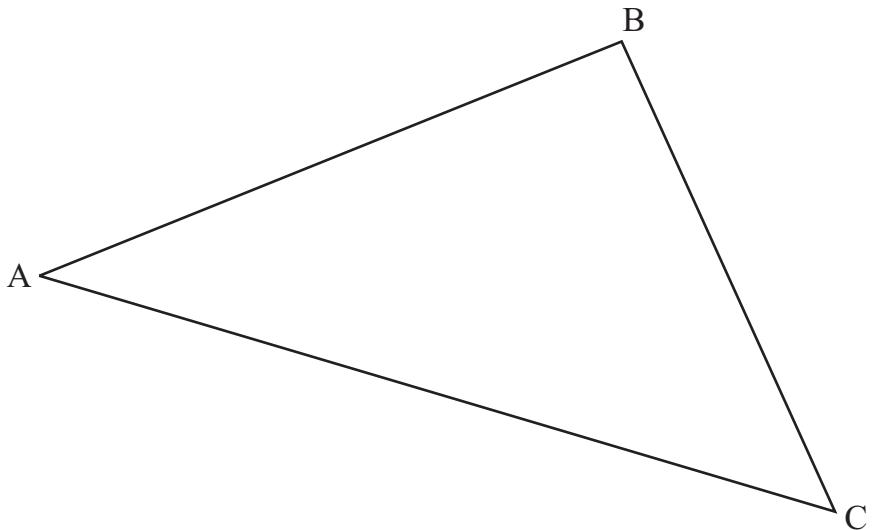
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