Rewarding Learning

Centre Number

Candidate Number

General Certificate of Secondary Education
2017

Mathematics

Unit T5 Paper 1
(Non-calculator)
Foundation Tier

ML

[GMT51]
FRIDAY 2 JUNE, 9.15am–10.15am

TIME

1 hour, plus your additional time allowance.

INSTRUCTIONS TO CANDIDATES

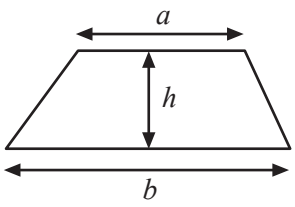
Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
You must answer the questions in the spaces provided.
Do not write outside the boxed area on each page, on blank pages or tracing paper.
Complete in black ink only.
Answer **all sixteen** questions.
All working 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

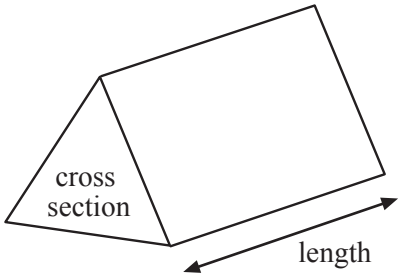
The total mark for this paper is 50.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
Functional Elements will be assessed in this paper.
Quality of written communication will be assessed in Question **2**.
You should have a ruler, compasses and a protractor.
The Formula Sheet is on page 2.

Formula Sheet

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



Volume of prism = area of cross section × length



1 **(a)** **Estimate** the total weight of 69 pies weighing 102 g each.

Answer _____ g [1]

(b) You have £20. Pencils cost 39p each. **Estimate** the greatest number of pencils you could buy.

Answer _____ [2]

Quality of written communication will be assessed in this question.

2 Gareth borrows £300 He pays back £300 plus 25%

Jemma borrows £300 She pays back £55 each month for five months and one final payment of £110

Who pays more and how much more?

Answer _____ pays £ _____ more [5]

[Turn over

3 From the names of all the people living in Northern Ireland, one person is taken at random.
Look at the list below:

Impossible Very Unlikely Unlikely Evens Likely Very Likely Certain

From the list of words given, choose the best word to describe:

(a) the chance of the person having a birthday in summer,

Answer _____ [1]

(b) the chance of the person being more than 140 years old,

Answer _____ [1]

(c) the chance of the person being you. Give a reason for your answer.

Answer _____ because _____ [1]

4

Shape	Square	Rhombus	Parallelogram	Rectangle
Number of lines of symmetry	4	4	2	2
Order of rotational symmetry	4	2	2	4

There are some mistakes in the table above. Circle each wrong number and write the correct number beside it. [3]

5 Which imperial unit would be used to measure

(a) a depth of several metres,

Answer _____ [1]

(b) a volume of twenty litres,

Answer _____ [1]

(c) a length of a few centimetres?

Answer _____ [1]

6 Calculate

(a) $3 + 2 \times 10$

Answer _____ [1]

(b) $12 - 4 \div 2$

Answer _____ [1]

[Turn over

7

x	A	7	4	=	+	–

Use any of the letters, numbers and symbols above to write

(a) an equation,

Answer _____ [1]

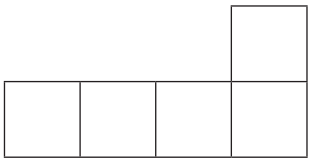
(b) an expression,

Answer _____ [1]

(c) a formula.

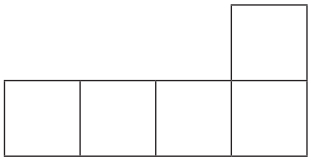
Answer _____ [1]

8 **(a)** Look at the drawing below:



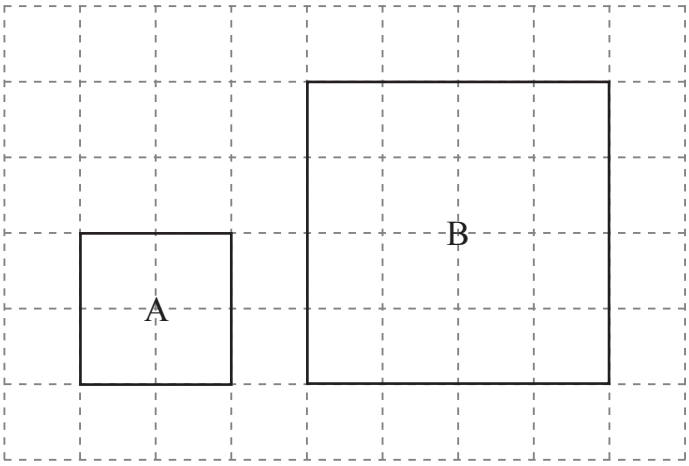
Add one square so that the new shape has one line of symmetry. [1]

(b) Look at the drawing below:



Add one square so that the new shape has rotational symmetry of order 2 [1]

(c) Look at the drawing below:



Shape A is enlarged to give shape B.

What is the scale factor of the enlargement?

Answer _____ [1]

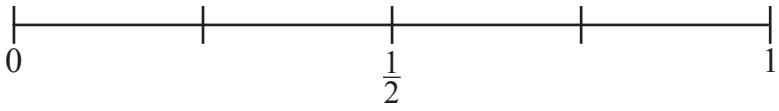
[Turn over

9 **(a)** A probability scale goes from 0 to 1

What does the number 1 tell you about the chance of an event happening?

_____ [1]

(b) Mark with an arrow and the letter P, the probability of having a birthday on 32nd January.



[1]

(c) 300 tickets are sold in a school raffle.

Only boys and girls buy tickets.

Explain why the probability of a boy winning may not be $\frac{1}{2}$

[1]

10 **(a)** Jill must make the answer 10

She must use the single digits 2, 3, 4 and 5, once each and in any order.

She can use any of +, –, ×, ÷, brackets.

Show how this can be done.

Answer _____ [2]

(b) When $c = -5$ and $d = 4$

evaluate $c^2 - \sqrt{d}$

Answer _____ [2]

[Turn over

11 The table shows information about all pupils in a Year 12 class.

	Boys	Girls
Blue Eyes	4	6
Brown Eyes	10	8

(a) How many pupils are there in the class?

Answer _____ [1]

(b) A pupil is chosen at random.

What is the probability that the pupil has blue eyes?

Answer _____ [1]

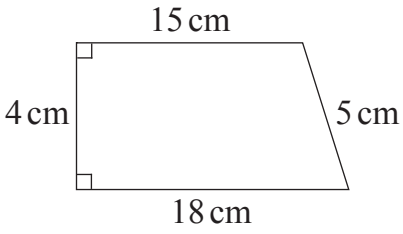
(c) A pupil is chosen. It is a boy.

What is the probability that he has brown eyes?

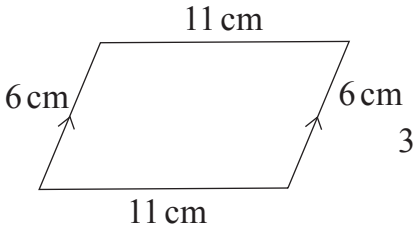
Answer _____ [2]

12 Two of the shapes below have an area of 66 cm^2 while the other shape does not.

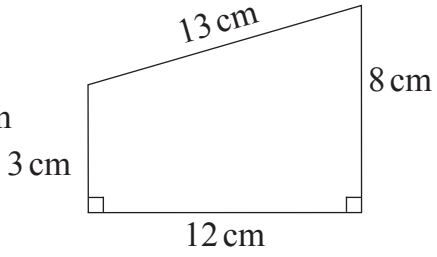
Explain why.



Shape A



Shape B

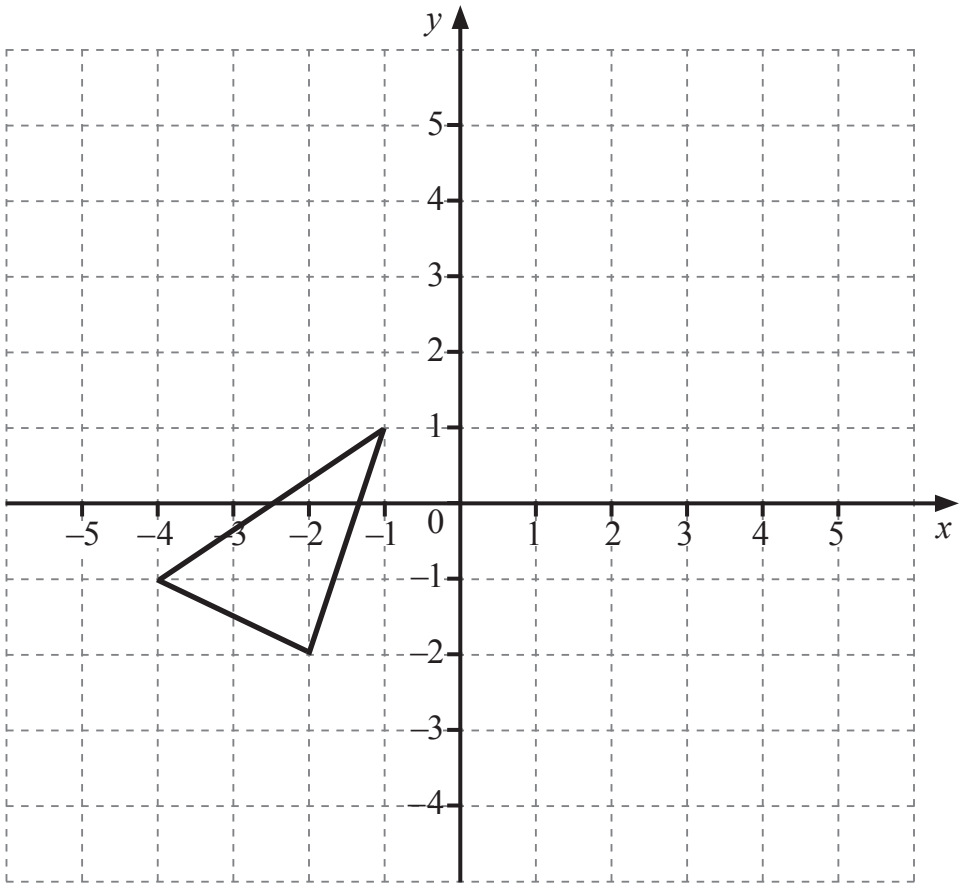


Shape C

[4]

[Turn over

13



Draw the image of the triangle after a rotation of 90° anticlockwise about the point (–1, 3). [3]

14 John and Mark share an amount of money in the ratio 5 : 6

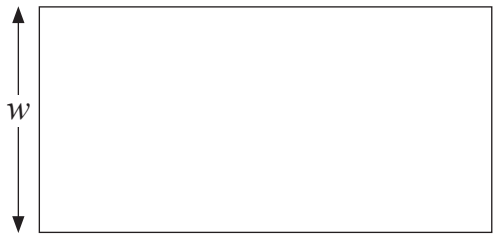
Mark's share is £48

What was the total amount shared?

Answer £ _____ [2]

15 The length of a rectangle is 3 times its width.

The width is w cm.



(a) Write down a formula for the area A of the rectangle in terms of w.

Answer _____ [1]

(b) The area of the rectangle is 48 cm^2

Calculate the width of the rectangle.

Answer _____ cm [2]

16 Complete the boxes

$$\frac{2xy}{3y} \times \frac{\square}{\square} = \frac{4xy^2}{9xy}$$

[2]

THIS IS THE END OF THE QUESTION PAPER

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For Examiner's use only	
Question Number	**Marks**
1	
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Total Marks	

Examiner Number