cea
Rewarding Learning

General Certificate of Secondary Education
2014

Mathematics

Unit T5 Paper 1

(Non-calculator)
Foundation Tier

[GMT51]

FRIDAY 30 MAY, 1.30pm–2.30pm

ML

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.
Complete in blue or black ink only.
Answer **all seventeen** 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.
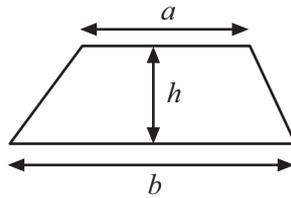Functional Elements will be assessed in this paper.
Quality of written communication will be assessed in **question 5**.
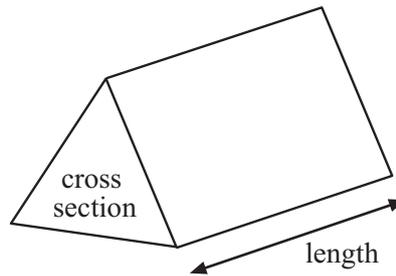You should have a ruler, compasses and a protractor.
The Formula Sheet is on page 2.

Formula Sheet

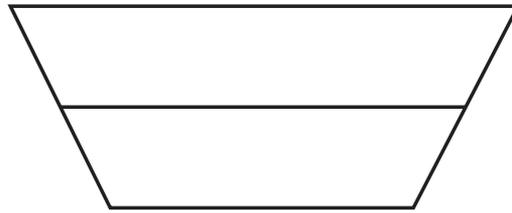**Area of trapezium** = $\frac{1}{2}(a + b)h$

Volume of prism = area of cross section × length

1 Draw all the lines of symmetry on each of the figures shown below.

(a)

[1]

(b)

[1]

(c)

[2]
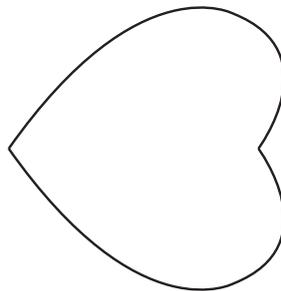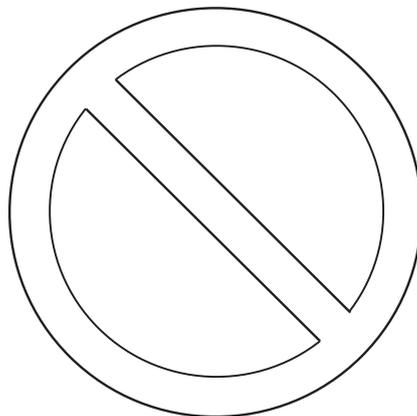
Total Question 1

[Turn over

2 **(a)** Estimate $\dfrac{98 \times 99}{2.1}$

Answer _____ [3]

(b) Estimate $\sqrt{75}$

Answer _____ [1]

Total Question 2

3 Jill bought a new jacket.
She paid £35 deposit and £10 per month for 9 months.
How much did she pay in total?

Answer £ _____ [2]

Total Question 3

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4

4 Here is a set of 10 rectangular picture cards.
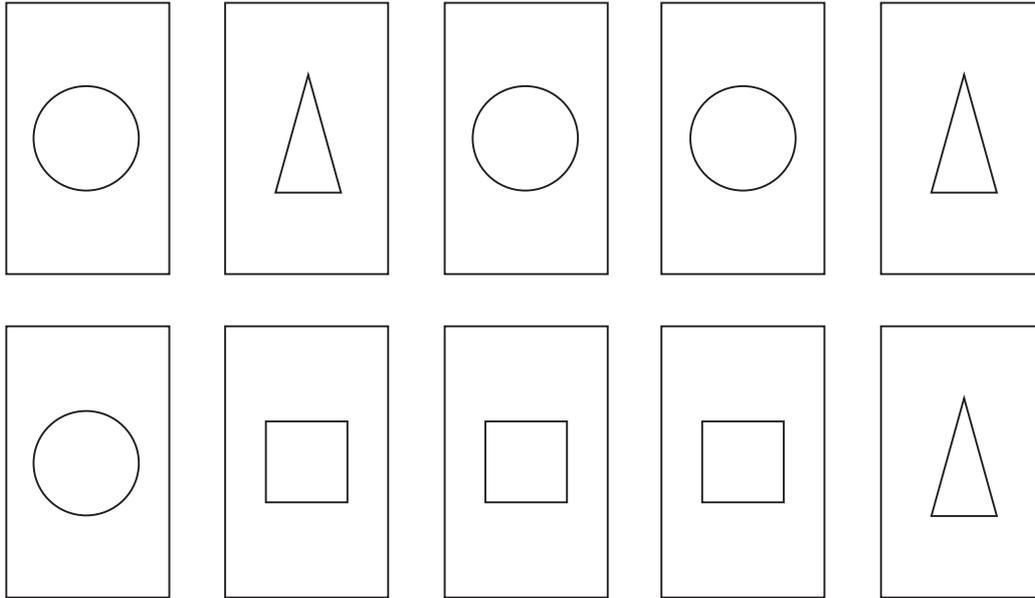
The cards are shuffled and placed face down.

One card is then turned face up.

(a) Which shape is most likely to be turned up?

Answer _____ [1]

(b) Which shapes are equally likely to be turned up?

Answer _____ and _____ [1]

Examiner Only	
Marks	Remark

Total Question 4

[Turn over

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5

Quality of written communication will be assessed in this question.

5 Bill earns £300 per week.
Bob earns £1250 per month.

Who earns more per year?

Show your working.

Answer _____ [4]

Total Question 5

6 Estimate the number of circular discs that can be placed flat, without overlapping, in the rectangular tray.
Each circular disc has a radius of 3.1 cm.
The length of the rectangular tray is 50 cm and the width is 23 cm.

50 cm

23cm

3.1cm

Total Question 6

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Answer _____ [3]

7 **(a)** Look at the diagram below. Shade in one more square so that there is only one line of symmetry.

[1]

(b) Look at the diagram below. Shade in one more square so that the new shape has rotational symmetry of order two.

Total Question 7

[1]

8 Evaluate

(a) $4 + 3 \times 5$

Answer _____ [1]

(b) $6 + 10 \div 2 - 3$

Total Question 8

Answer _____ [1]

[Turn over

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7

9 Two gallons is approximately nine litres.

(a) Use this information to draw a conversion graph.
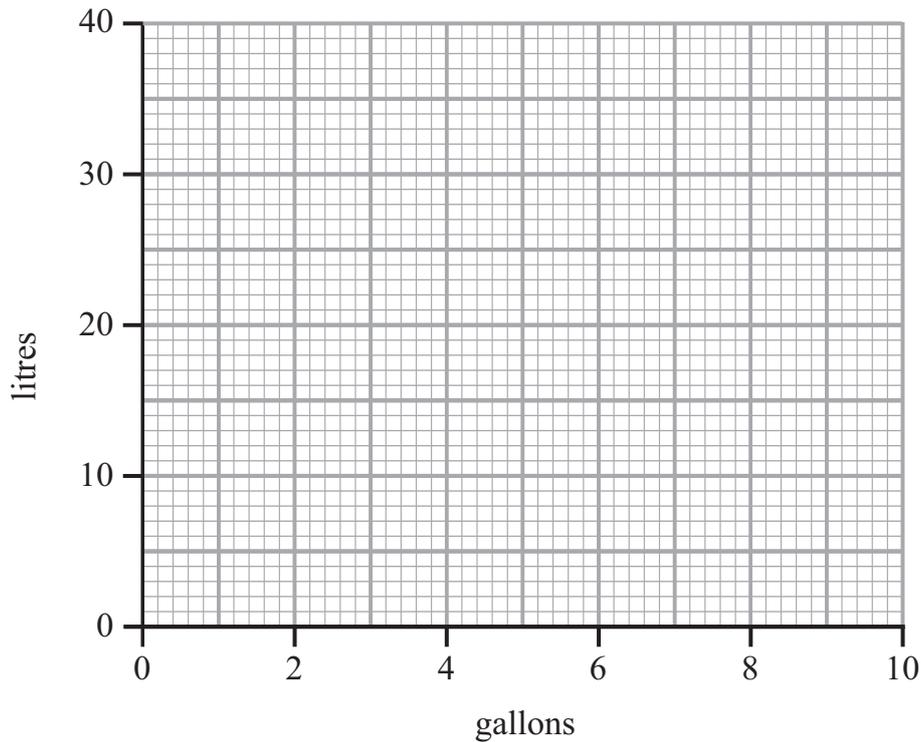
[2]

(b) (i) Use your graph to change 24 litres to gallons.

Answer _____ gallons [1]

(ii) Use your graph to change 14 gallons to litres.

Answer _____ litres [1]

(c) Complete the sentence to show how gallons can be converted to litres.
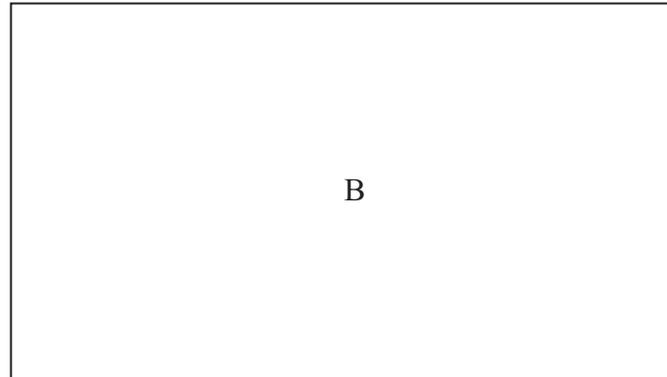
To change gallons to litres you multiply by _____ [1]

Total Question 9

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8

10 Look at the diagrams below. Rectangle A has been enlarged by a scale factor of 4 to give rectangle B.

How many times bigger is the area of rectangle B than the area of rectangle A?

A

B
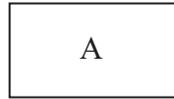
Answer _____ times bigger [2]

Total Question 10

[Turn over

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9

11 A game is played with two coloured spinners. One spinner is white and the other is blue. The numbers 1, 2, 3, 4 and 5 are marked on each spinner.

WHITE SPINNER

BLUE SPINNER

Each spinner is spun and stops at a number. A score is found by adding the two numbers together.

(a) Complete the table below to show all the possible total scores.

```
        5 │
        4 │
WHITE   3 │  4   5
        2 │  3   4   5
        1 │  2   3   4   5   6
          └─────────────────────
             1   2   3   4   5
                   BLUE                    [2]
```

(b) (i) Find the probability of having a total score less than 5.

Answer _____ [1]

(ii) Find the probability of having a total score which is an odd number.

Answer _____ [2]

Total Question 11

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10

	Examiner Only
	Marks	Remark

12 Work out the value of $\dfrac{Q^2(4-R)}{3}$ when Q = –3 and R = 6

Answer _____ [3]

Total Question 12

13 (a) Given that 24 × 640 = 15 360
write down the **answer** to 2.4 × 64
Do not show your working out.

Answer _____ [1]

(b) Given that $\dfrac{25\,600}{80} = 320$

write down the **answer** to $\dfrac{2560}{8}$
Do not show your working out.

Answer _____ [1]

Total Question 13

14 (a) Calculate 600 ÷ 0.2

Answer _____ [2]

(b) Without working out the answer to 40 × 0.752 write down whether the answer will be greater or less than 40.
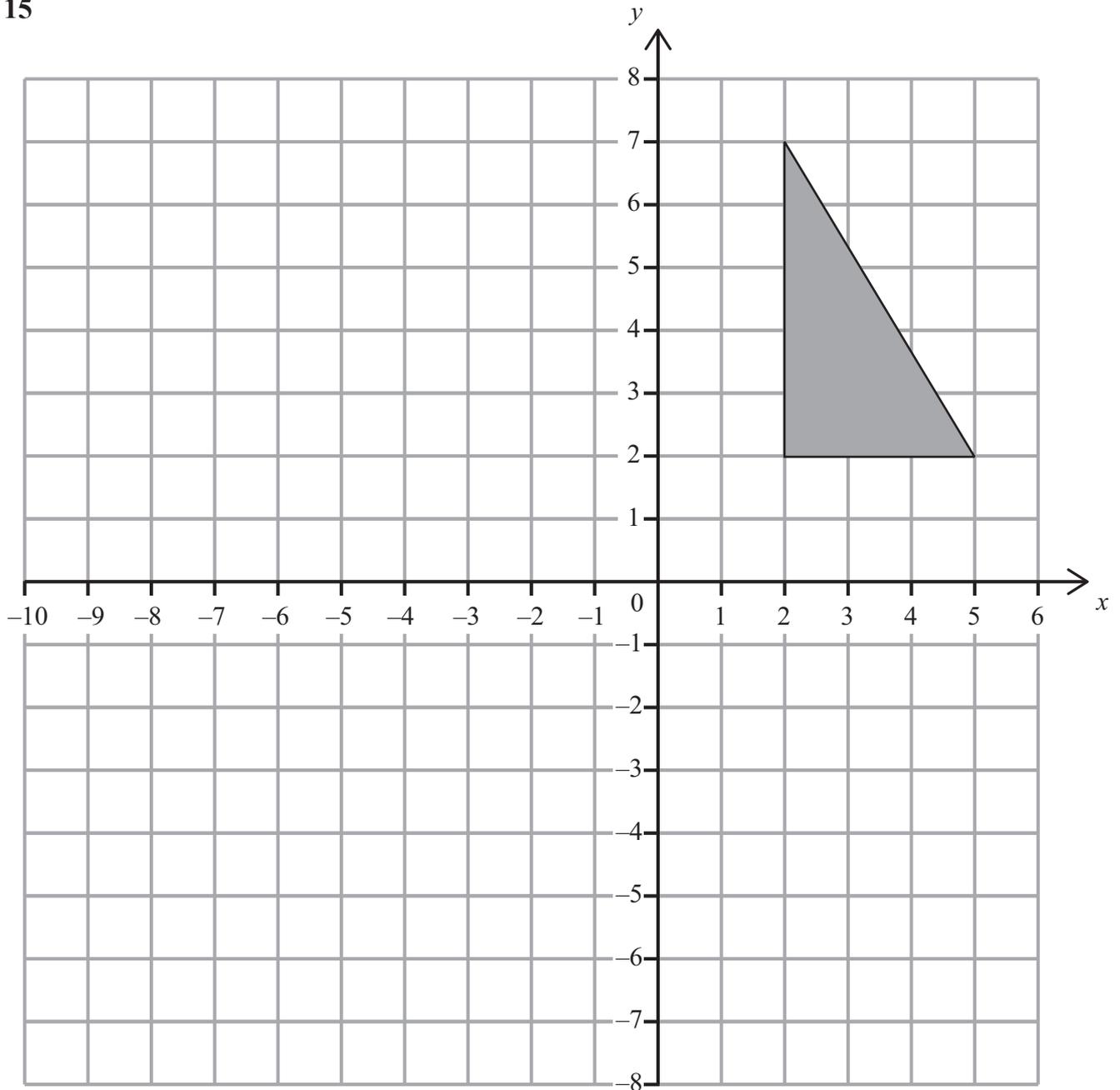Explain your answer clearly.

_____ because _____

Total Question 14

_____ [2]

[Turn over

15

Draw and shade the image of the triangle after a 90° anticlockwise rotation about the point (−1, 1). [2]

Examiner Only	
Marks	**Remark**
Total Question 15	

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12

16 A girl does an experiment. She drops pieces of toast to see if they land jam up or jam down.
Here are her results.

Number of trials	10	50	100	500	1000
Jam Down	4	29	61	308	623
Relative Frequency	0.4		0.61	0.616	0.623

(a) Complete the missing relative frequency value in the table. [1]

(b) From the results of the girl's experiment, is a piece of toast more likely to land jam up or jam down? Explain your answer.

_____

_____

_____ [1]

17 Make x the subject in $y - kx = t$

Answer $x =$ _____ [2]

THIS IS THE END OF THE QUESTION PAPER

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