Rewarding Learning

Centre Number

Candidate Number

General Certificate of Secondary Education
2014

Mathematics

Unit T5 Paper 1

(Non-calculator)
Foundation Tier

[GMT51]

GMT51

FRIDAY 30 MAY, 1.30pm–2.30pm

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 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.

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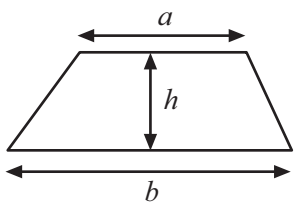
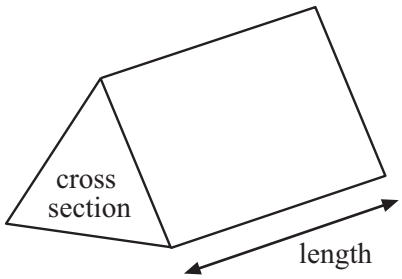
Formula Sheet

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



Volume of prism = area of cross section × length



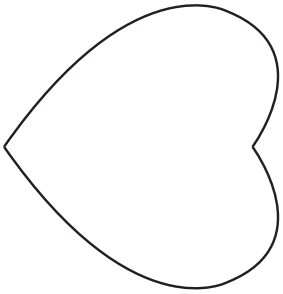
1 Draw all the lines of symmetry on each of the figures shown below.

Examiner Only	
Marks	Remark

(a)

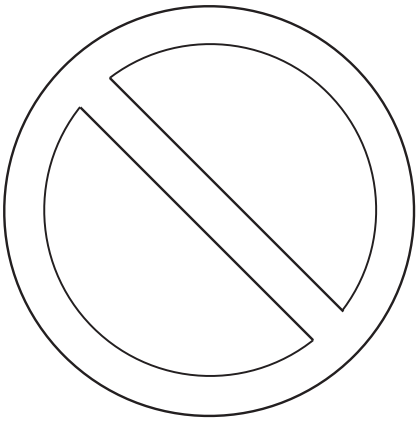
[1]

(b)



[1]

(c)



[2]

Total Question 1

[Turn over

Examiner Only	
Marks	Remark

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

Answer _____ [3]

(b) Estimate $\sqrt{75}$

Answer _____ [1]

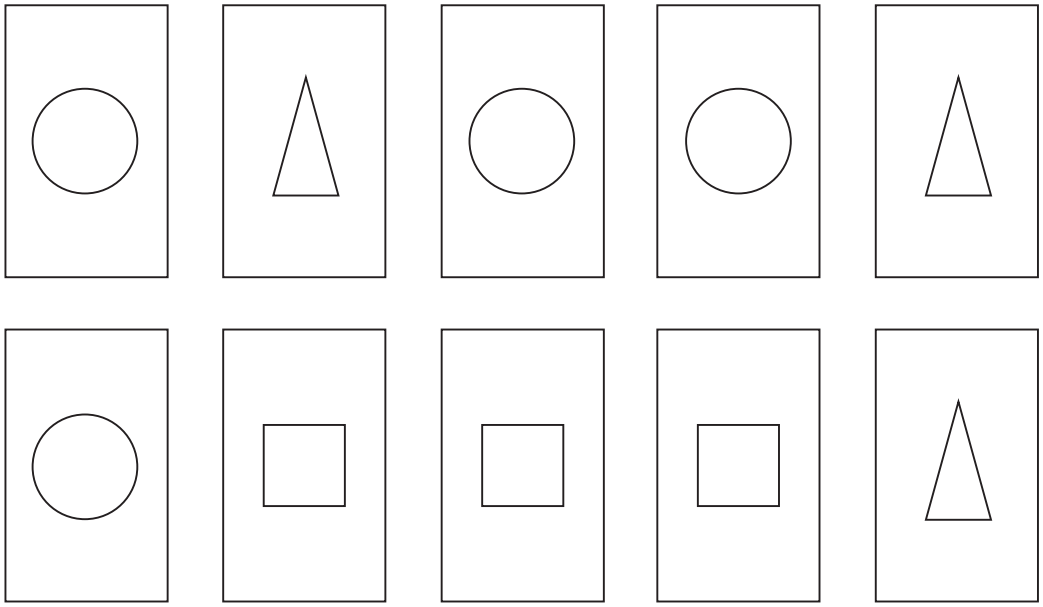
Total Question 2

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

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	

Quality of written communication will be assessed in this question.

Examiner Only	
Marks	Remark

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

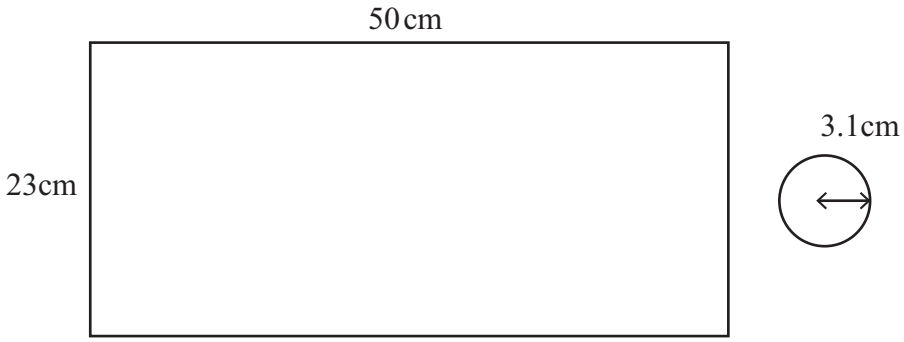
Who earns more per year?

Show your working.

Answer _____ [4]

Total Question 5

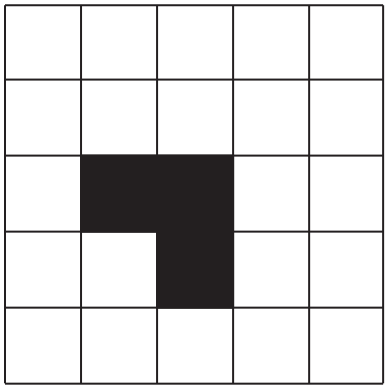
6 Estimate the number of circular discs of radius 3.1 cm which can be placed flat, without overlapping, in the rectangular tray of length 50 cm and width 23 cm.



Answer _____ [3]

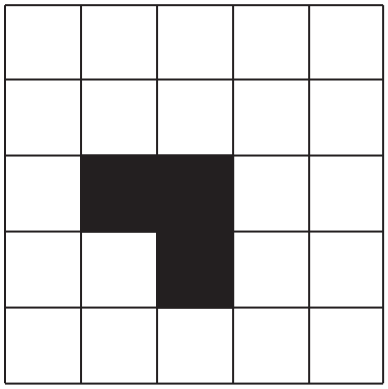
Total Question 6

7 **(a)** In the diagram below shade in one more square so that the new shape has only one line of symmetry.



[1]

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



[1]

Total Question 7

8 Evaluate

(a) $4 + 3 \times 5$

Answer _____ [1]

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

Answer _____ [1]

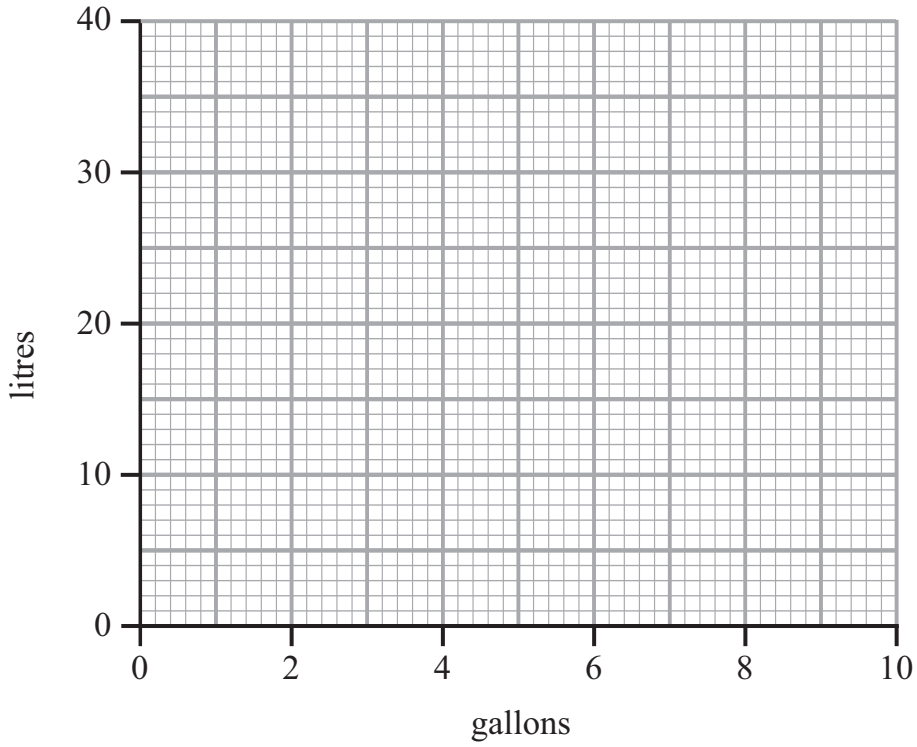
Total Question 8

[Turn over

9 Two gallons is approximately nine litres.

Examiner Only	
Marks	Remark

(a) Use this information to draw a conversion graph.



[2]

(b) Use your graph to change

(i) 24 litres to gallons

Answer _____ gallons [1]

(ii) 14 gallons to litres

Answer _____ litres [1]

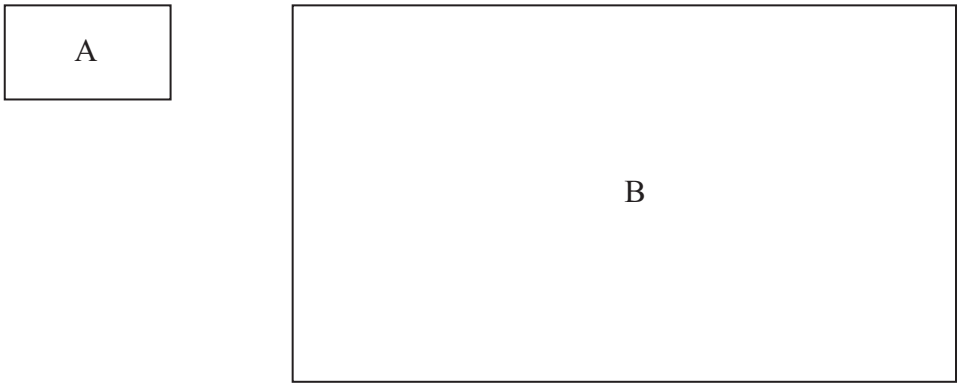
(c) Complete the sentence to show how gallons can be converted to litres.

To change gallons to litres you multiply by _____ [1]

Total Question 9

10 In the diagram 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?

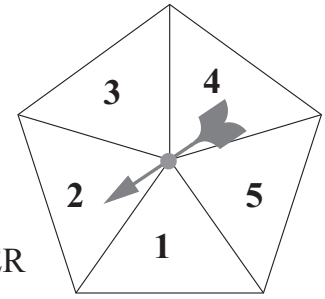


Answer _____ times bigger [2]

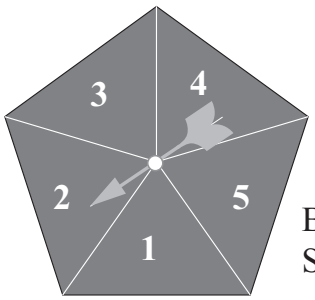
Examiner Only	
Marks	Remark
Total Question 10	

Examiner Only	
Marks	Remark

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



WHITE SPINNER



BLUE SPINNER

Each spinner is spun and a score is found by adding together the numbers indicated.

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

WHITE	5					
	4					
	3	4	5			
	2	3	4	5		
	1	2	3	4	5	6
		1	2	3	4	5

BLUE

[2]

(b) Find the probability of having a total score

(i) less than 5,

Answer _____ [1]

(ii) which is an odd number.

Answer _____ [2]

Total Question 11	

Examiner Only	
Marks	Remark

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

Answer _____ [3]

Total Question 12

13 **(a)** Given that $24 \times 640 = 15\,360$

write down the answer only to 2.4×64

Answer _____ [1]

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

write down the answer only to $\frac{2560}{8}$

Answer _____ [1]

Total Question 13

14 **(a)** Calculate $600 \div 0.2$

Answer _____ [2]

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

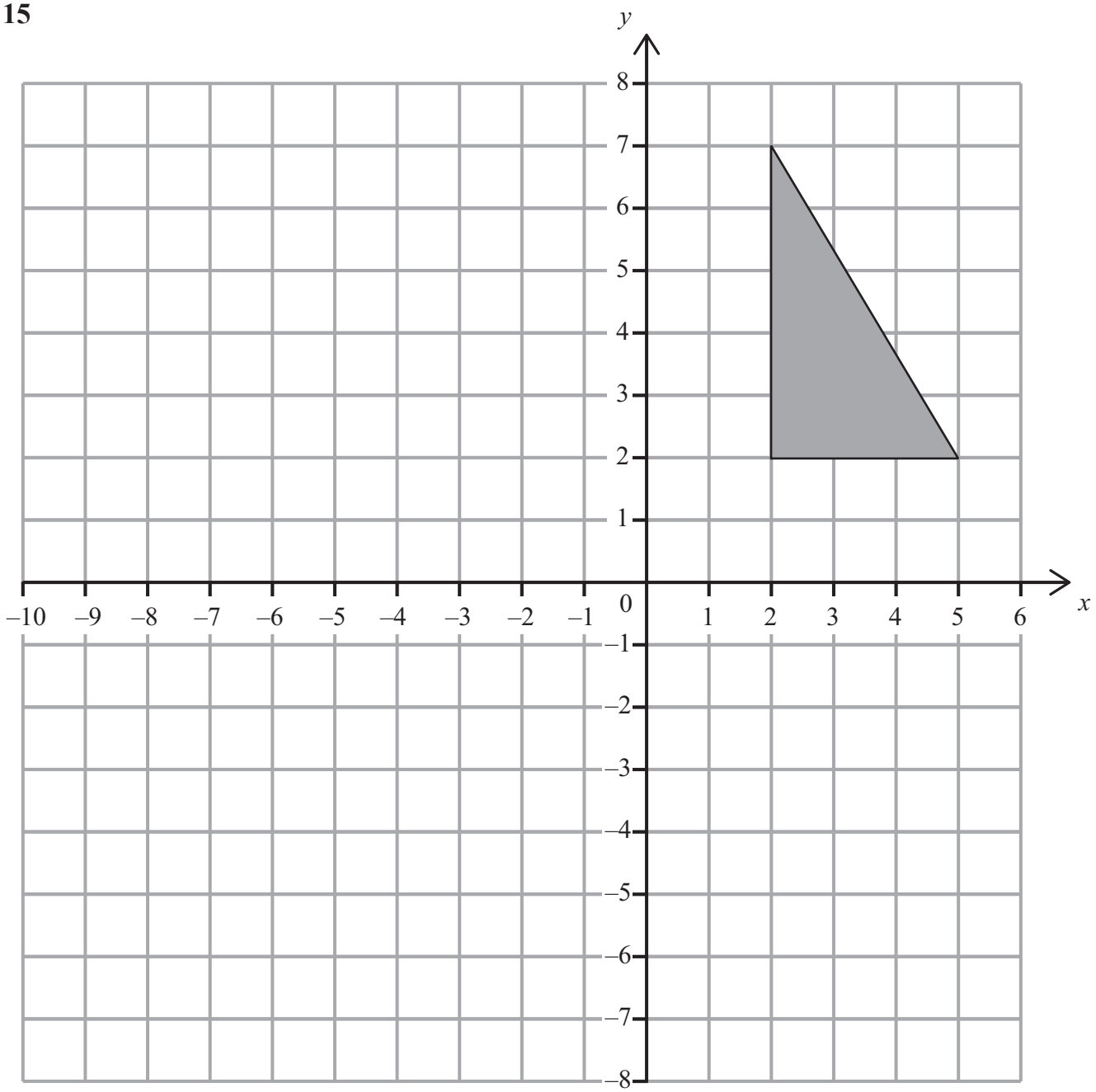
_____ because _____

_____ [2]

Total Question 14

[Turn over

15



Examiner Only	
Marks	Remark
Total Question 15	

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

16 Niamh carries out an experiment dropping 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 Niamh's experiment would you say that a piece of toast is more likely to land jam up or jam down? Explain your answer.

_____

_____

_____ [1]

Examiner Only

Marks	Remark

Total Question 16

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

Answer $x =$ _____ [2]

THIS IS THE END OF THE QUESTION PAPER

Total Question 17

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For Examiner's use only	
Question Number	**Marks**
1	
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17	
Total Marks	

Examiner Number