

**Monday 16 January 2012 – Morning**

**GCSE MATHEMATICS C (GRADUATED ASSESSMENT)**

**B273B MODULE M3 – SECTION B**

Candidates answer on the Question Paper.

**OCR supplied materials:**  
None

- Other materials required:**
- Geometrical instruments
  - Tracing paper (optional)
  - Electronic calculator

**Duration:** 30 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**INSTRUCTIONS TO CANDIDATES**

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

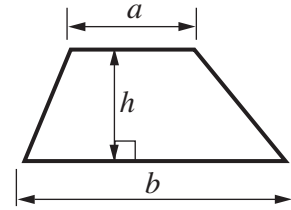
**INFORMATION FOR CANDIDATES**

- The number of marks is given in brackets [ ] at the end of each question or part question.
- Section B starts with question 7.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

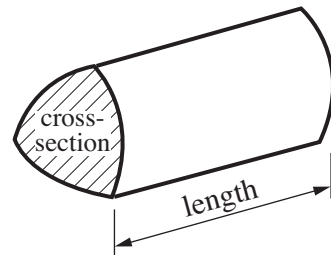
This paper has been pre modified for carrier language

## Formulae Sheet

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



$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



**PLEASE DO NOT WRITE ON THIS PAGE**

7 Calculate.

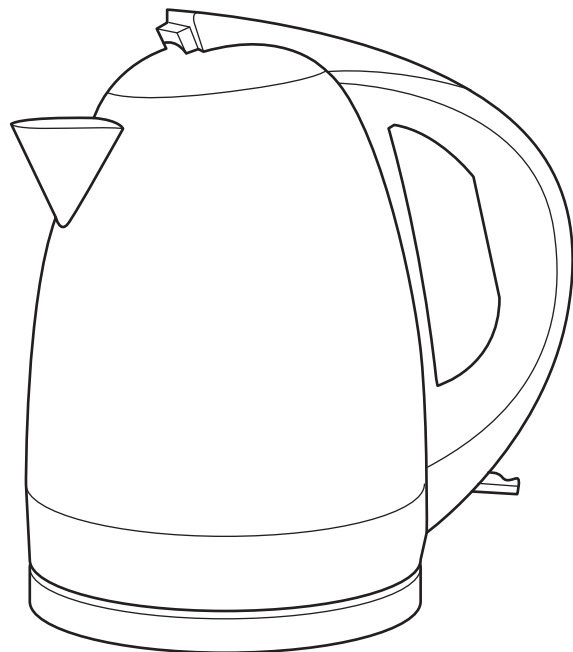
(a)  $\frac{1}{4}$  of £36

(a) £..... [1]

(b)  $\frac{2}{5}$  of 19 metres

(b) ..... m [2]

8 Here is a picture of a bag of sugar and a kettle.  
The bag is 18 cm high.



Estimate the height of the kettle.

..... cm [1]

9 Solve.

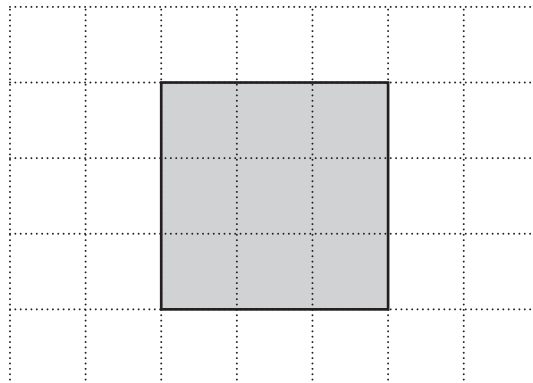
(a)  $3x = 63$

(a) ..... [1]

(b)  $x + 10 = 19$

(b) ..... [1]

10 (a) This shaded square is drawn on a one-centimetre grid.



The square has an area of  $9 \text{ cm}^2$  and each side is 3 cm long.

Choose from the words in the box to complete the sentence.

square	total	difference	square root
	fraction	ratio	mean

The area of the square in  $\text{cm}^2$  is the ..... of the length of its side in cm. [1]

(b) Write the missing number in this sequence.

1    4    9    16    25    36    .....    64    [1]

(c) Complete this statement.

$$144 = \square^2 \quad [1]$$

(d) Work these out, using a calculator.

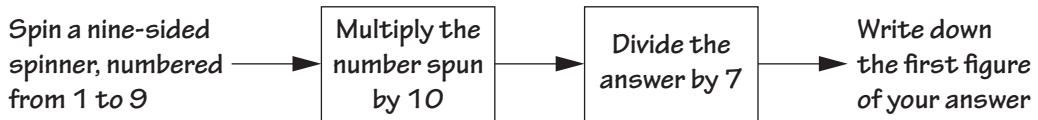
(i)  $\sqrt{3136}$

(d)(i)..... [1]

(ii)  $23 \cdot 5^2$

(ii) ..... [1]

11 Layla uses this word formula.



(a) Layla spins a 5.

Use your calculator to find the figure she should write down.

(a)..... [2]

(b) Layla used a fair spinner, and the formula, 46 times. These are her results.

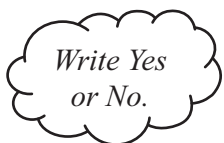
Answer figure	Tally	Frequency
1	### ## ### ## //	22
2	////	4
3		0
4	### //	7
5	////	4
6		0
7	### /	6
8		
9		0
Total		46

(i) Complete the row for 8 in the table.

[3]

(ii) Layla has another go.

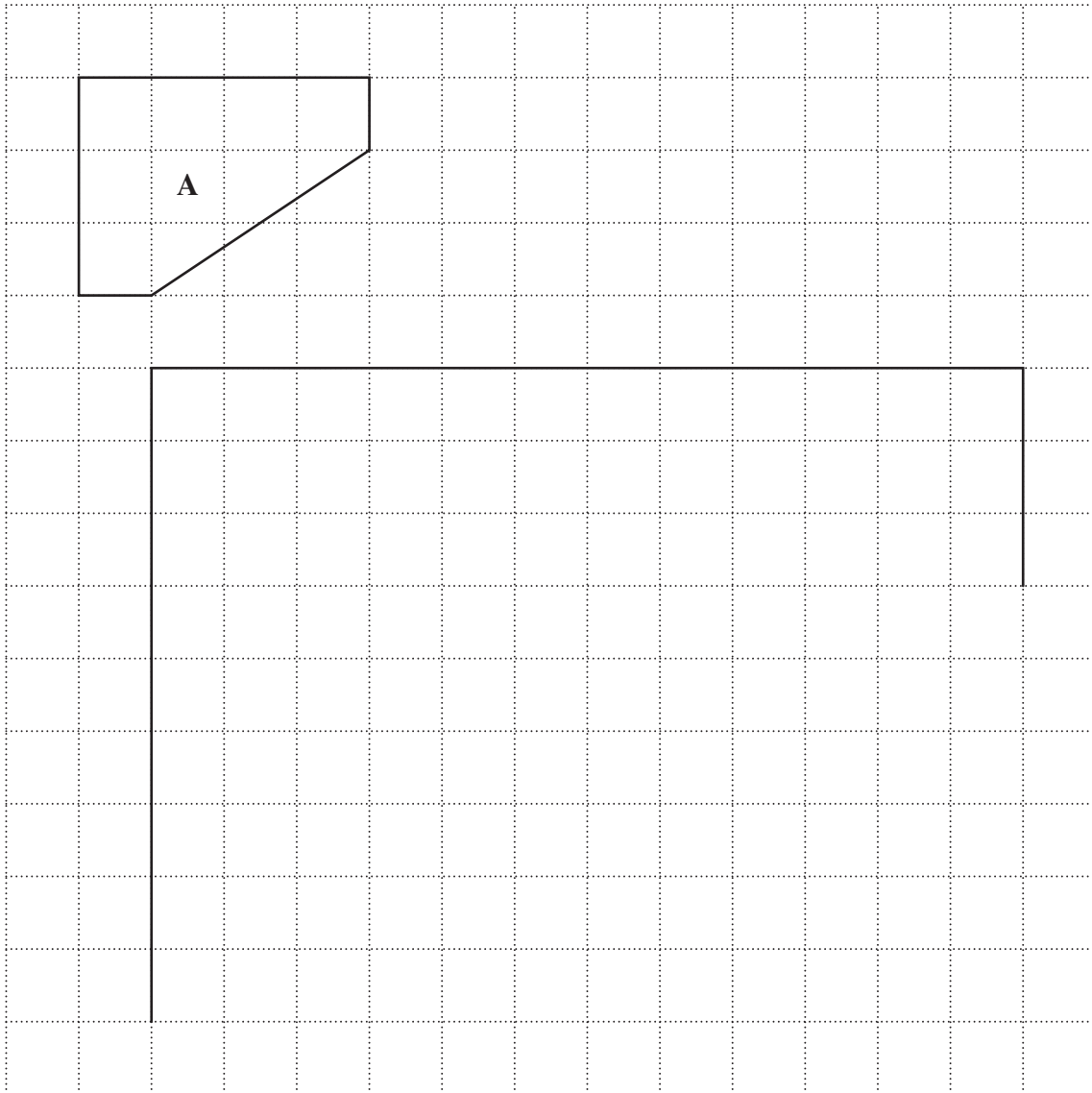
Look at Layla’s results.  
Is she likely to get an answer figure of 3?  
Explain your answer.



..... because .....

..... [2]

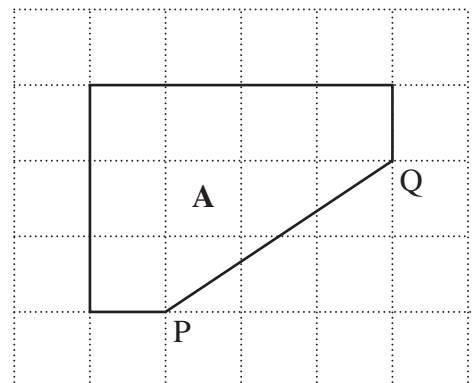
- 12 (a) Complete the enlargement of shape A using a scale factor of 3.



[2]

- (b) Shape A is a scale drawing of a shelf for a corner unit. It has been drawn using a scale of **1 cm to 20 cm**.

What is the **real length** of PQ?



(b) ..... cm [2]

**TURN OVER FOR QUESTION 13**

13 There are 12 houses in a road.

These are the numbers of letters delivered to each house one day.

4    0    3    2    1    0    3    2    2    1    6    3

(a) What is the mean number of letters delivered to a house in this road?

(a)..... [2]

(b) What is the range of the number of letters delivered?

(b) ..... [1]

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