



# M1

**GENERAL CERTIFICATE OF SECONDARY EDUCATION  
MATHEMATICS C (GRADUATED ASSESSMENT)  
MODULE M1 – SECTION B**

## B271B



Candidates answer on the question paper.

**OCR supplied materials:**  
None

**Other materials required:**

- Geometrical instruments
- Tracing paper (optional)
- Electronic calculator

**Thursday 20 January 2011  
Morning**

**Duration: 30 minutes**



|                       |  |                      |  |
|-----------------------|--|----------------------|--|
| Candidate<br>forename |  | Candidate<br>surname |  |
|-----------------------|--|----------------------|--|

|               |  |  |  |  |  |                  |  |  |  |  |
|---------------|--|--|--|--|--|------------------|--|--|--|--|
| Centre number |  |  |  |  |  | Candidate number |  |  |  |  |
|---------------|--|--|--|--|--|------------------|--|--|--|--|

**MODIFIED LANGUAGE**

**INSTRUCTIONS TO CANDIDATES**

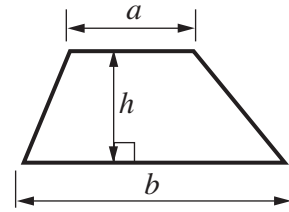
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Show your working. 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).
- Answer **all** the questions.
- Do **not** write in the bar codes.

**INFORMATION FOR CANDIDATES**

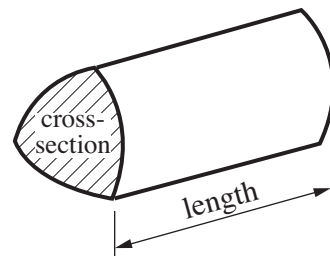
- The number of marks is given in brackets [ ] at the end of each question or part question.
- Section B starts with question 9.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **12** pages. Any blank pages are indicated.

## Formulae Sheet

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



**Volume of prism** = (area of cross-section)  $\times$  length



**PLEASE DO NOT WRITE ON THIS PAGE**

- 9 (a) Here is a number pattern.

1      3      5      7      9      11      13

What is the **special** name for numbers like this?

(a) ..... [1]

- (b) Here is the start of a different number pattern.

2      6      10      14

What is the next number in this pattern?

(b) ..... [1]

- (c)

|   |    |    |    |    |    |
|---|----|----|----|----|----|
| 7 | 15 | 18 | 40 | 41 | 52 |
|---|----|----|----|----|----|

Pavan wants to write down a list of numbers that are divisible by 5.

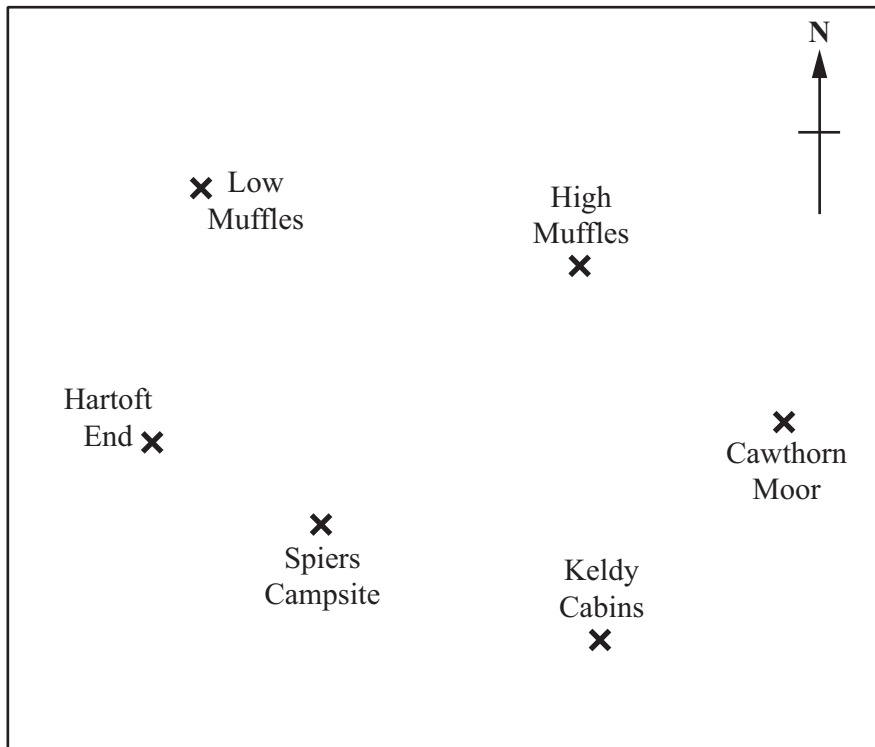
- (i) Write down **all** of the numbers from the box that should go in his list.

(c)(i) ..... [1]

- (ii) Explain how you can tell if a number is divisible by 5.

..... [1]

10 Here are some places in Cropton Forest.



(a) Complete each sentence with the correct compass direction.

Cawthorn Moor is ..... of Hartoft End.

Spiers Campsite is ..... of High Muffles.

[2]

(b) Here are the prices for Spiers Campsite.

| Prices per night |        |
|------------------|--------|
| Up to 2 people   | £14.00 |
| Extra adult      | £ 5.50 |
| Extra child      | £ 3.00 |

Mr and Mrs Ross and their child stay at the campsite for 3 nights.

How much do they pay altogether?

(b) £ ..... [3]

(c) Ian walks from Keldy Cabins to High Muffles.

(i) His watch shows the time he starts the walk.



What time does he start the walk?

(c)(i) ..... [1]

(ii) Ian arrives at High Muffles at 3:15.

How long does Ian take to walk from Keldy Cabins to High Muffles?

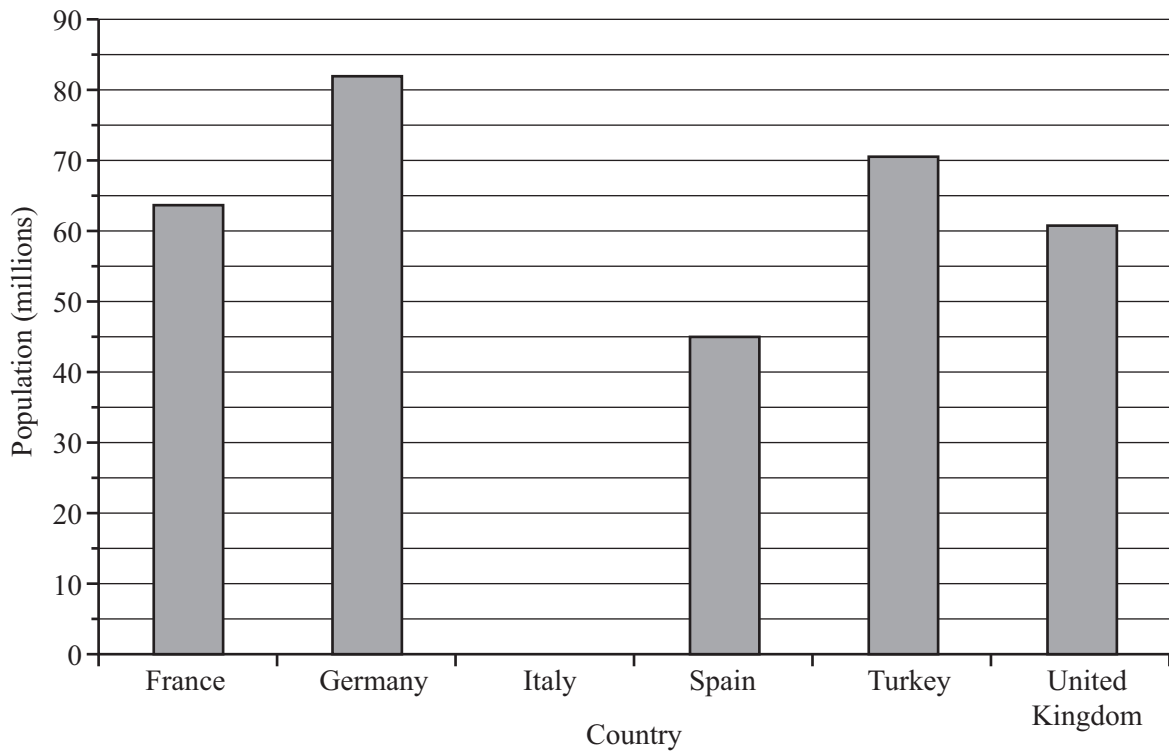
(ii) ..... minutes [1]

(d) Ian now walks from High Muffles to Cawthorn Moor.  
He leaves High Muffles at 3:25.  
It takes him 30 minutes to walk to Cawthorn Moor.

What time is it when he gets there?

(d) ..... [1]

11 (a) This bar chart shows the populations of the largest countries in the European Union in 2008.



(i) The population of Italy was 60 million.

Show this on the bar chart.

[1]

(ii) Which country had the largest population?

(a)(ii) ..... [1]

(iii) What was the population of Spain?

(iii) ..... million [1]

(iv) Complete.

The population of Turkey was ..... million more than the population of the United Kingdom.

[1]

- (b) Luxembourg is one of the smallest countries in the European Union.  
The area of Luxembourg is 2586 square kilometres.

Write 2586 correct to the nearest hundred.

(b) ..... [1]

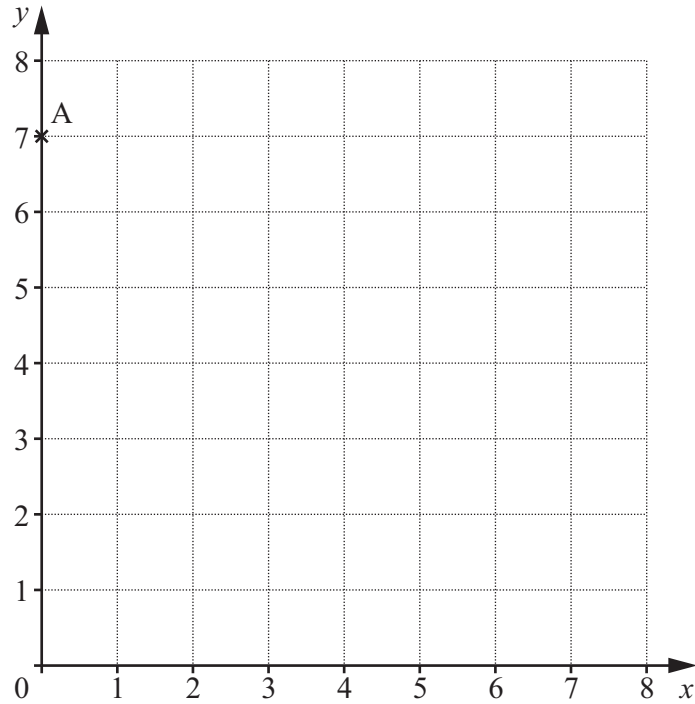
- (c) Here are the lengths, in kilometres, of some rivers in Europe.

|               |               |               |                |              |
|---------------|---------------|---------------|----------------|--------------|
| Rhine<br>1320 | Loire<br>1012 | Volga<br>3692 | Danube<br>2860 | Elbe<br>1091 |
|---------------|---------------|---------------|----------------|--------------|

Write the lengths in order, starting with the **longest**.

..... [2]  
*longest*

12



(a) Write down the coordinates of point A.

(a) (..... , .....) [1]

(b) Point B is at (6, 4).

Plot point B on the grid.

[1]

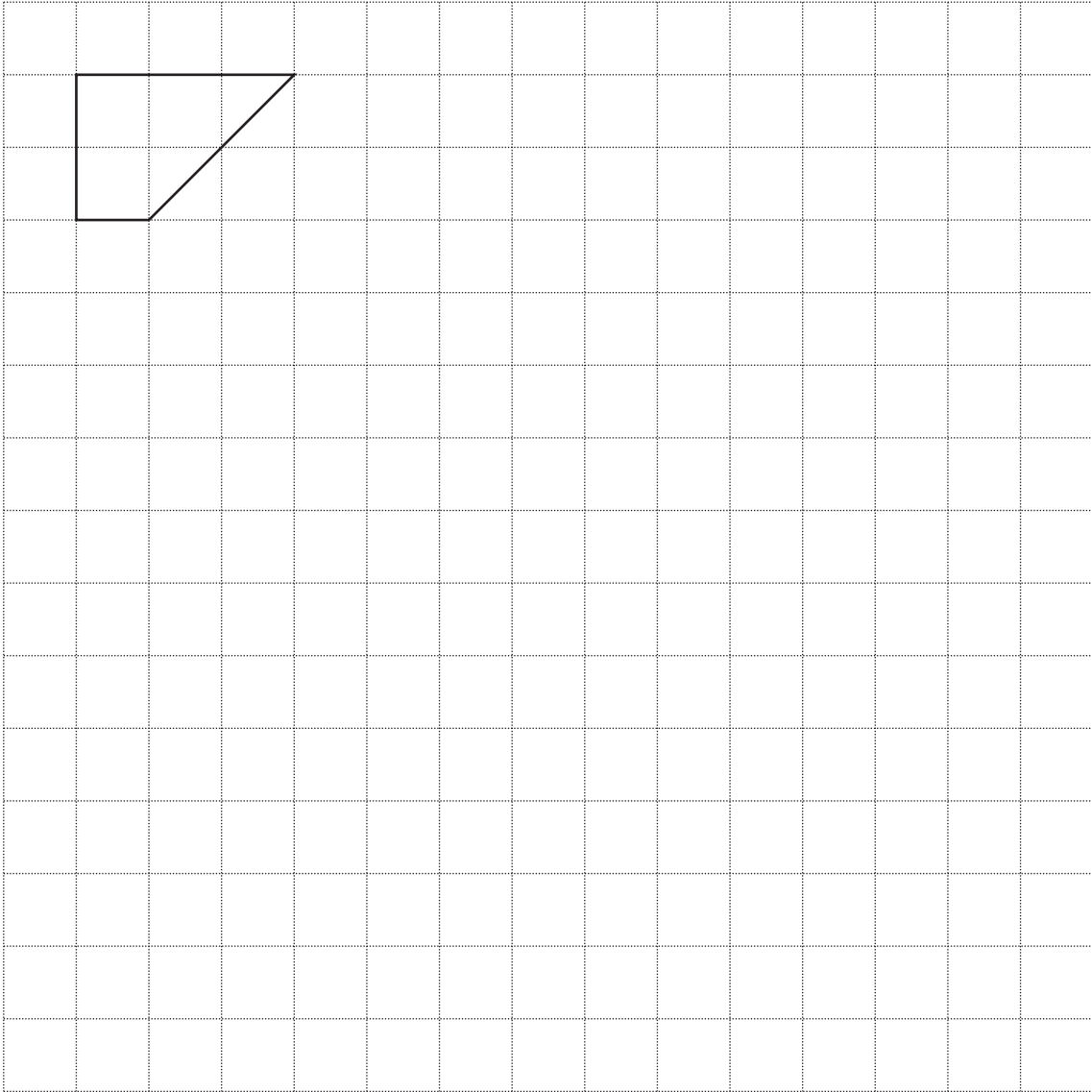
(c) Join points A and B with a straight line.

Write down the coordinates of another point on this line.

(c) (..... , .....) [1]



- 13 Draw an enlargement of the shape below.  
Make each line **three** times as long.



[3]

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