M3

OCR
RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION

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

Tuesday 1 March 2011
Morning

Duration: 30 minutes

Candidate forename		Candidate 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.
* 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).
* Show your working. Marks may be given for a correct method even if the answer is incorrect.
* 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 **8** pages. Any blank pages are indicated.

OCR is an exempt Charity

Turn over

Formulae Sheet

Area of trapezium $= \frac{1}{2}(a + b)h$
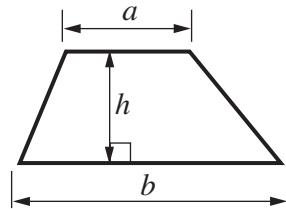
Volume of prism = (area of cross-section) × length
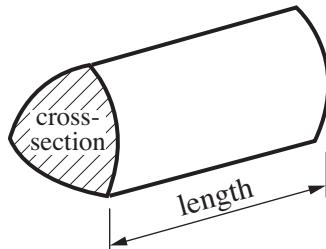
PLEASE DO NOT WRITE ON THIS PAGE

9 Enlarge this shape using scale factor 3.
One side has been drawn for you. **[2]**
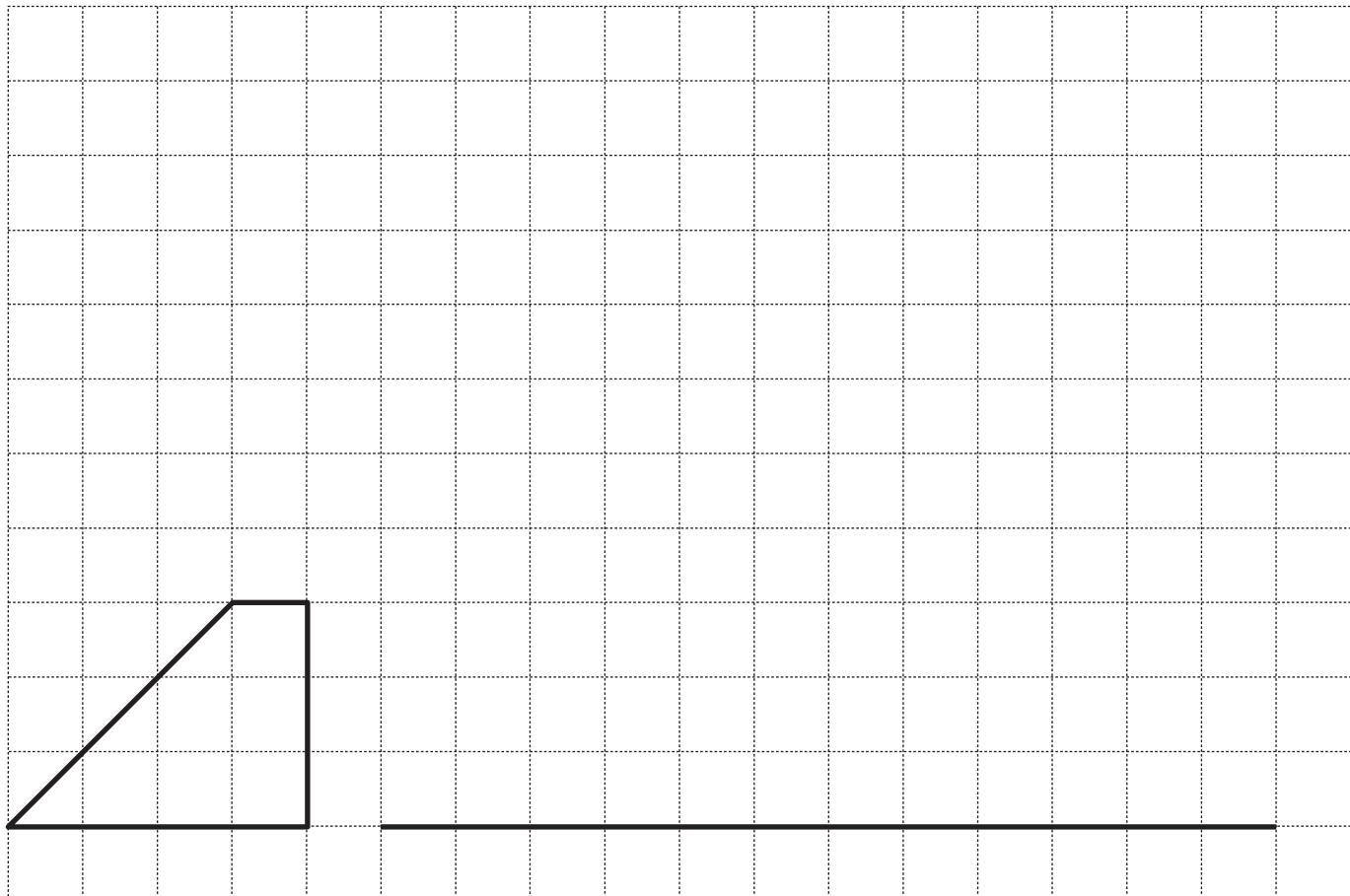
10 **(a)** Helen recorded the colours of the front doors of the 20 houses in her street.

Colour	Number of doors
Red	4
Blue	8
Green	5
Other	3

   (i) Complete the bar chart to show this information.
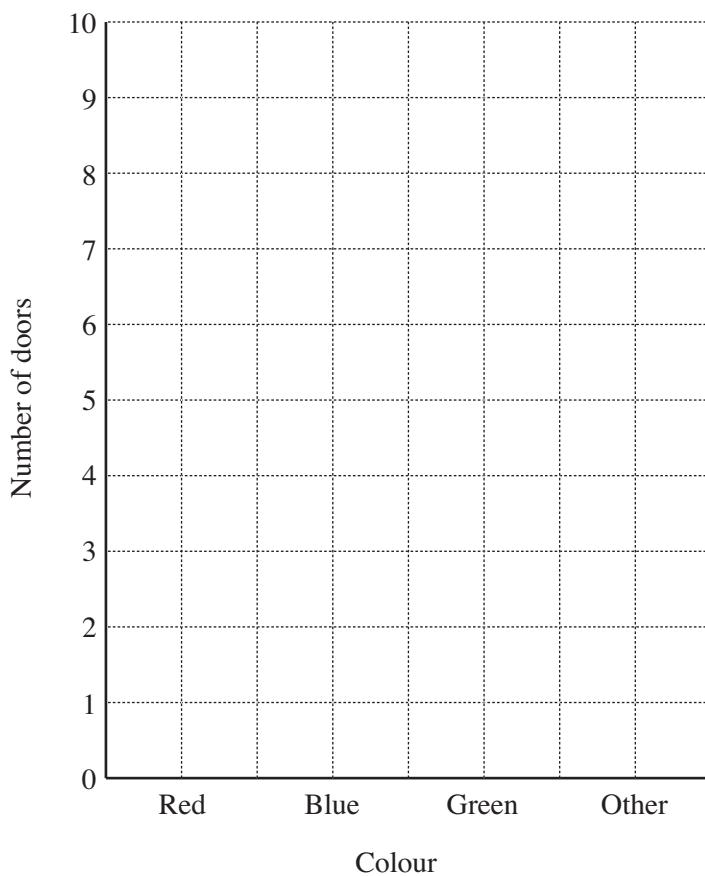
                                                                                                                              [2]

   (ii) Write down the mode.

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

   (iii) Helen says that most of the doors are blue.

   Explain why her statement is **not** correct.

   ....

   .... **[1]**

(b) Helen records the hours of sunshine each day during the half-term holiday.

<div align="center">4   0   1   9   8   7   2   8   6</div>

    (i)   Calculate the mean.

(b)(i) .... hours **[3]**

    (ii)   Work out the range.

(ii) .... hours **[1]**

11 Work out.

    (a) 24^2

(a) .... **[1]**

    (b) $\sqrt{729}$

(b) .... **[1]**

    (c) $(4 + 7) \times 6$

(c) .... **[1]**

    (d) $4 + 7 \times 6$

(d) .... **[1]**

                                                                   Turn over

12 Here is a table with conversions between pounds and euros.

Pounds (£)	0	20	40
Euros (€)	0	24	48
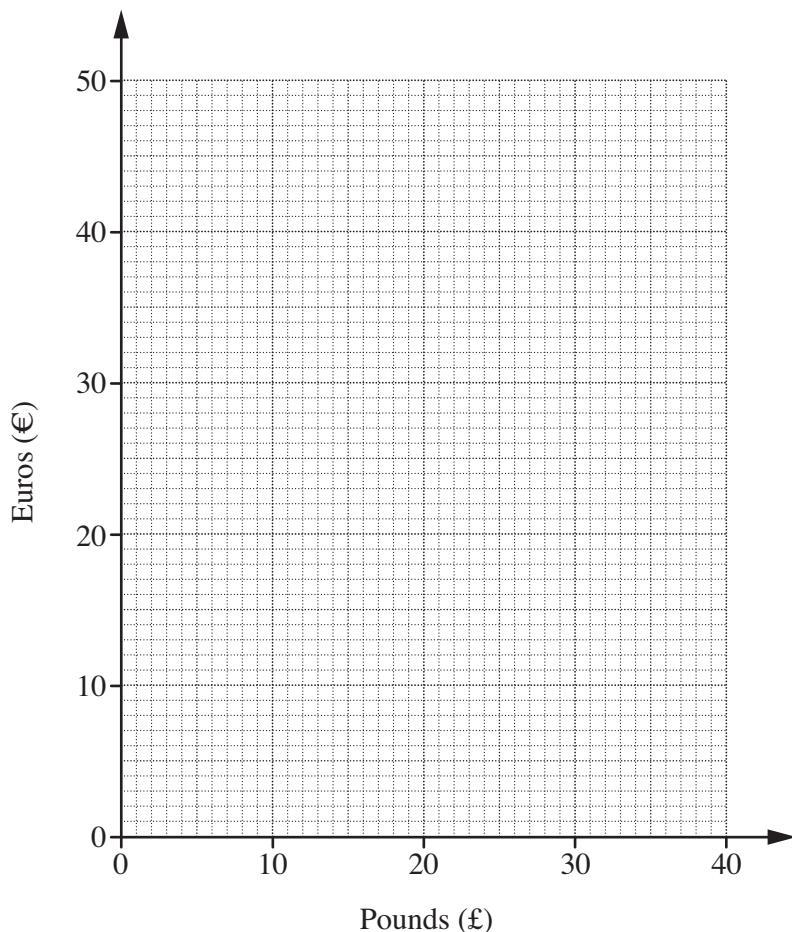
(a) Draw the conversion graph between pounds and euros. **[2]**

(b) Use your graph to convert

    (i) 25 pounds to euros,

                                                        (b)(i) €.............................. **[1]**

    (ii) 40 euros to pounds.

                                                        (ii) £ .... **[1]**

13 **(a)** Michelle is cooking beef.
She uses this rule to find the cooking time in minutes.

Multiply the weight (in kg) by 40 and add 40 to the answer.

Calculate the cooking time for a piece of beef weighing 3 kg.

(a) .... minutes **[2]**

(b) Geoff is cooking lamb.
He uses this rule to find the cooking time, T minutes.

$$T = 50w + 55$$

w is the weight of the lamb in kilograms.

Calculate the cooking time when $w = 4$.

(b) .... minutes **[2]**

TURN OVER FOR QUESTION 14

14 The shape below is made from 4 one-centimetre cubes.
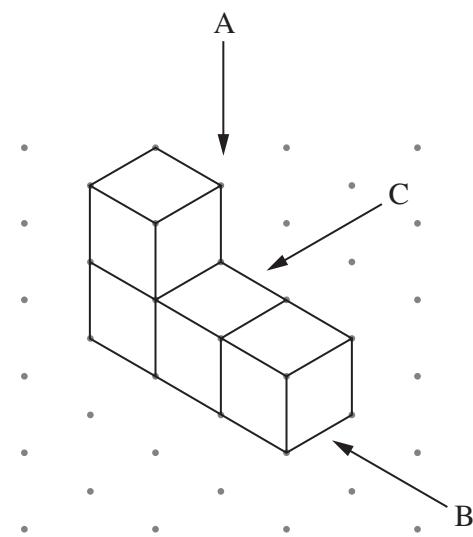
Here are four views.
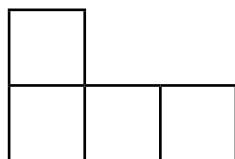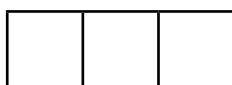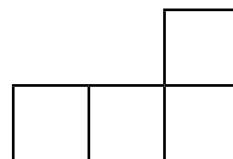
View 1   View 2   View 3   View 4

(a) Which is the view from A?

(a) .... **[1]**

(b) Which is the view from B?

(b) .... **[1]**

(c) Which is the view from C?

(c) .... **[1]**