OCR
RECOGNISING ACHIEVEMENT

B273A

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)

MODULE M3 – SECTION A

M3

MONDAY 21 JANUARY 2008

Morning
Time: 30 minutes

Candidates answer on the question paper
Additional materials: Geometrical instruments
Tracing paper (optional)

Candidate Forename		Candidate Surname	

Centre Number		Candidate Number	

INSTRUCTIONS TO CANDIDATES

*   Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
*   Use blue or black ink. Pencil may be used for graphs and diagrams only.
*   Read each question carefully and make sure that 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.
*   Answer **all** the questions.
*   Do **not** write in the bar codes.
*   Do **not** write outside the box bordering each page.
*   Write your answer to each question in the space provided.

INFORMATION FOR CANDIDATES

*   The number of marks is given in brackets [ ] at the end of each question or part question.
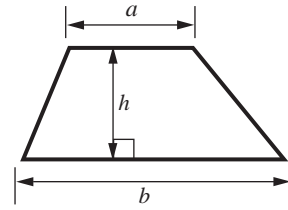*   The total number of marks for this Section is 25.

WARNING

You are not allowed to use a calculator in Section A of this paper.
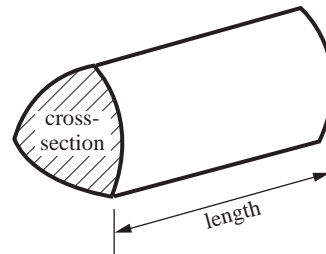
FOR EXAMINER'S USE	
SECTION A	
SECTION B	
TOTAL	

This document consists of **8** printed pages.

[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

1   Here is part of a bus timetable.

Thornhill	09:56	10:15
Bitterne	10:05	10:24
St Mary's	10:17	....
Civic Centre	10:25	....

  (a) How many minutes does the 09:56 bus take to travel from Thornhill to Bitterne?

  (a) .... minutes [1]

  (b) The next bus leaves Thornhill at 10:15.
  The times taken for each part of its journey are the same as for the 09:56 bus.

  Complete the timetable for the 10:15 bus.   [2]
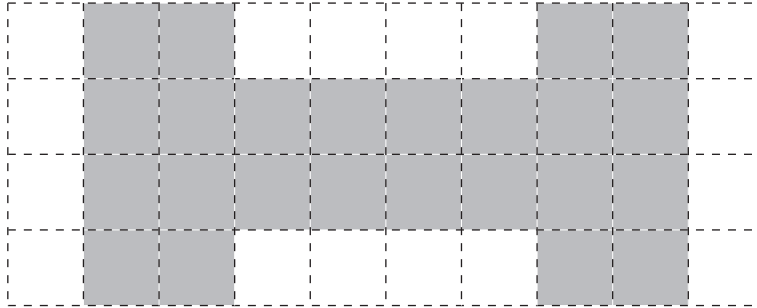
  3

2   Work out.

  (a) 14 − 6 ÷ 2

  (a) .... [1]

  (b) (3 + 8) × (6 + 1)

  (b) .... [2]

  3

[Turn over

3　Mr Hall has asked his students to shade part of a grid of 40 centimetre squares.

(a)　Adrian shades this pattern.

What fraction of the grid has been shaded?
Give your answer in its simplest form.

(a) .... [2]

(b)　Nikki shades $\frac{3}{8}$ of the grid.

Work out $\frac{3}{8}$ of 40.

(b) .... [2]

(c)　Ray shades 20% of the grid.

Work out 20% of 40.

(c) .... [2]

6

4 **(a)** This glass holds 250 ml.

How many of these glasses can be filled
from a 1 litre bottle?
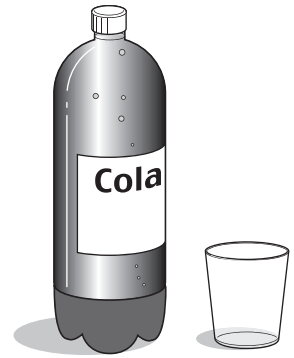
(a) .... [1]

(b) This glass holds 100 ml.

How many of these glasses can be filled
from a 0·7 litre bottle?

(b) .... [2]

5 Complete.

    (a) 0·8   ×   100   = ...   [1]

    (b) 0·8   ×   7   = ...   [1]

    (c) 0·42   ×   ....   =   4·2   [1]

    (d) 0·3   ×   ....   =   1·8   [1]

4	

6 This is a sketch of a field.

70 m

B

40 m

Not to scale

D 60 m C
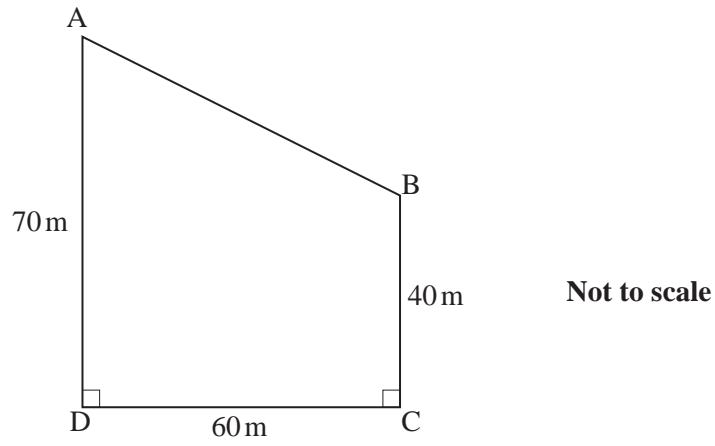
(a) Make a scale drawing of the field.
Use a scale of **1 cm to 10 m**.
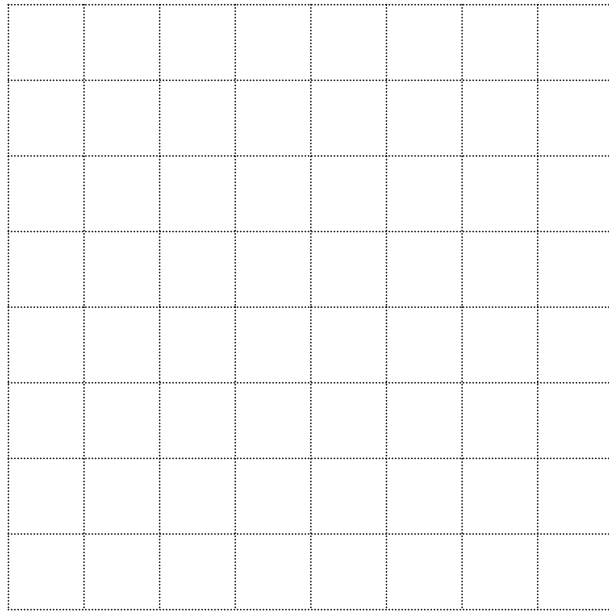
[2]

(b) Use your scale diagram to find the **real** length from A to B.

(b) .... m [2]

4

TURN OVER FOR QUESTION 7

7 Magda did a survey about the number of people in cars.
This frequency diagram shows the results of her survey.
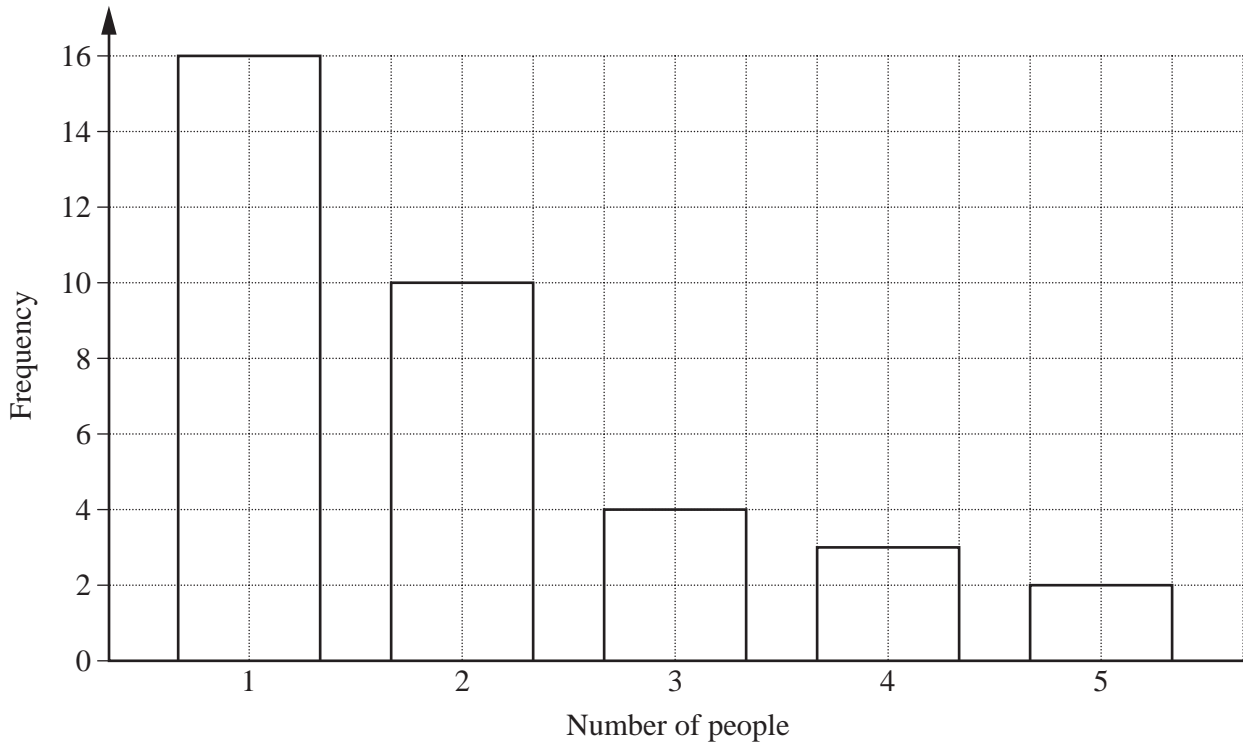
(a) What was the **modal** number of people in a car?

(a) .... [1]

(b) Explain how you can tell from the diagram that 35 cars were in her survey.

....

.... [1]

2