OCR
RECOGNISING ACHIEVEMENT

B275A

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M5 – SECTION A

M5

MONDAY 21 JANUARY 2008

Morning
Time: 30 minutes

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

CUP/T55578

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.

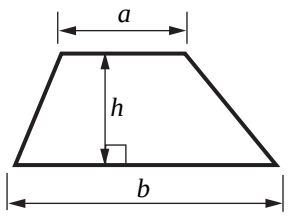
FOR EXAMINER'S USE	
SECTION A	
SECTION B	
TOTAL	

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

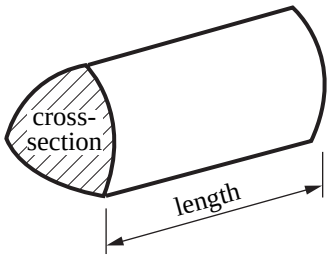
[Turn over

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 Work out.

(a) the square root of 36

(a) ..... [1]

(b) 4^3

(b) ..... [1]

2

2 Joe and Alice are each choosing a pet.
They can each choose one of the following:

dog (D), cat (C), rabbit (R).

Their choices can be the same or different.

(a) List the choices they can make.

Joe	Alice

you may not need to use all the lines in the table

[2]

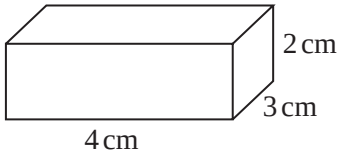
(b) Joe and Alice each make their choice at random.

What is the probability that they both choose a dog?

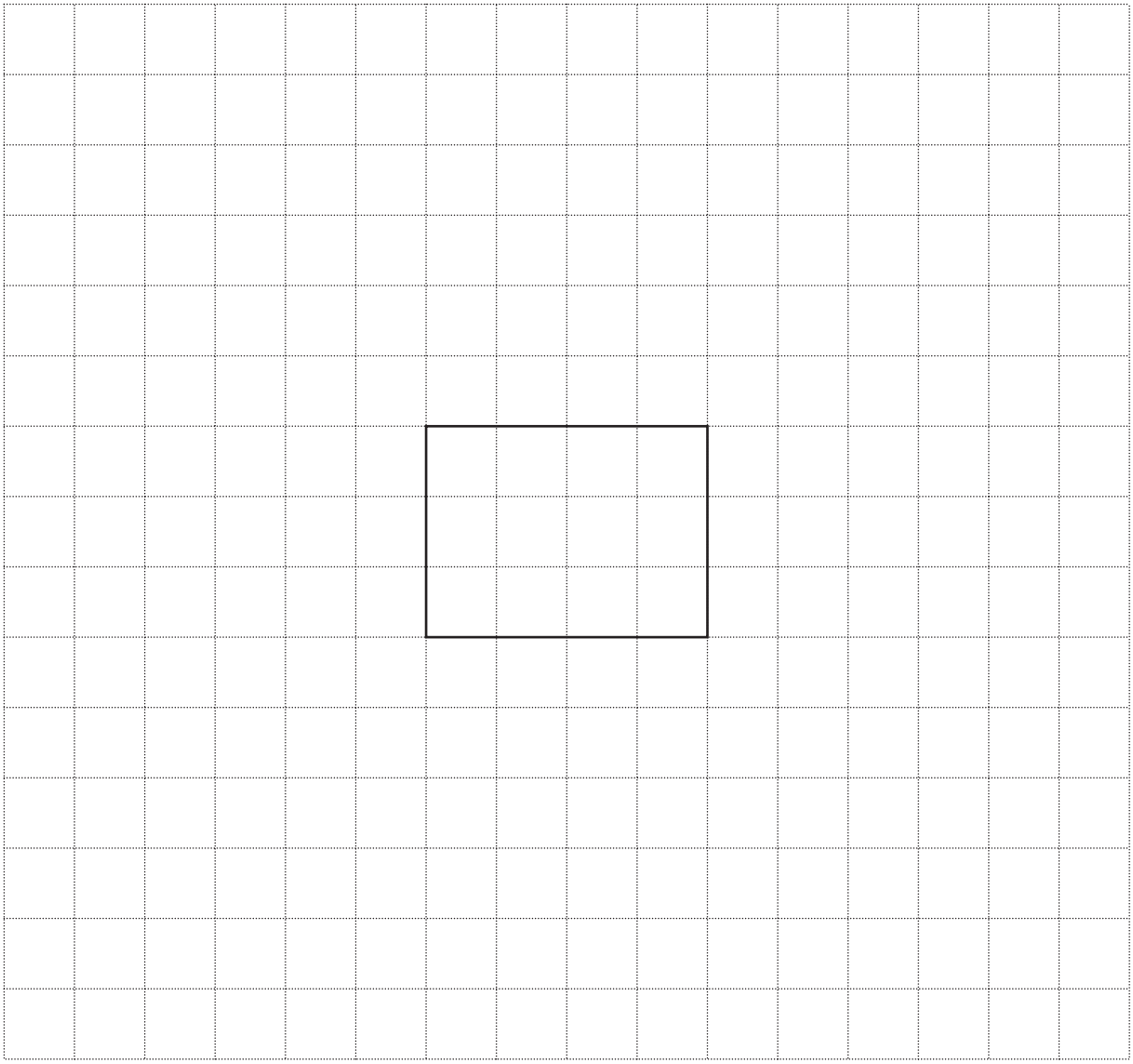
(b) ..... [1]

3

3 This box is a cuboid.



(a) Complete a net for the box.



[3]

(b) Work out the volume of the box.

(b) ..... cm^3 [2]

5

4 **(a)** Write $\frac{15}{18}$ as a fraction in its simplest form.

(a) ..... [1]

(b) Work out.

$$\frac{2}{3} \times \frac{1}{4}$$

Give your answer as a fraction in its simplest form.

(b) ..... [2]

3

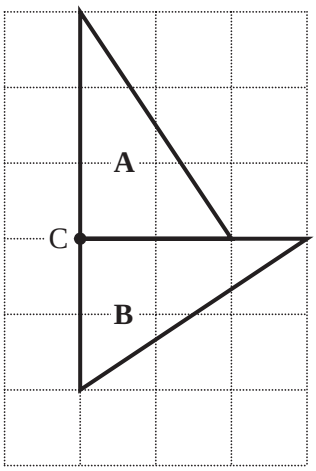
5 **(a)** Complete this logo so that it has rotational symmetry of order 2 but no lines of symmetry.

[1]

(b) What is the order of rotational symmetry of a regular pentagon?

(b) ..... [1]

(c) Triangle **A** has been rotated about C to make triangle **B**.



Complete this sentence.

Triangle **A** has been rotated _____ wise

through _____° about C. [1]

3

6 **(a)** A cricket match was watched by 21 482 people.

Write 21 482 correct to one significant figure.

(a) ..... [1]

(b) During a season, a batsman scored an average of 27·36 runs.

Write 27·36 correct to one decimal place.

(b) ..... [1]

(c) A cricket club sold 2217 season tickets.
Each season ticket cost £394.

Estimate the total cost of the 2217 season tickets.
Show the estimates you use.

(c) ..... = £ ..... [2]

4

TURN OVER FOR QUESTION 7

7 **(a)** Use the formula $P = 2L + 2W$

to find the value of P when $L = 2{\cdot}1$ and $W = 4{\cdot}3$.

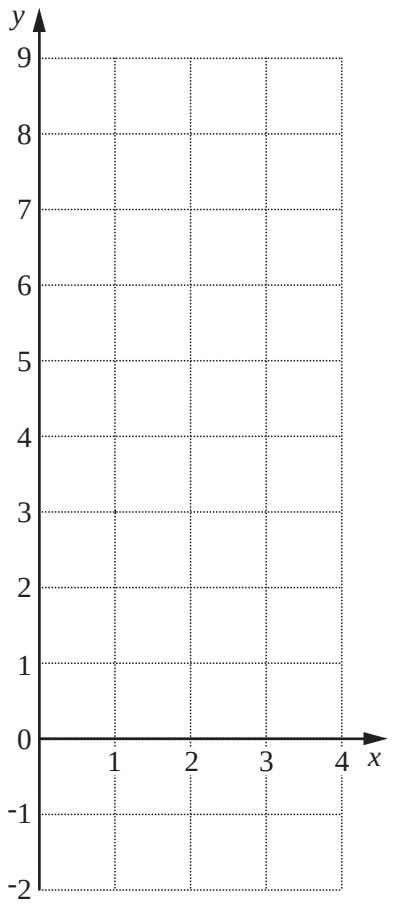
(a)..... [2]

(b) **(i)** Complete this table for $y = 2x - 1$.

x	0	2	4
y		3	

[1]

(ii) Draw the graph of $y = 2x - 1$.



[2]

5