

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

MATHEMATICS C
(Graduated Assessment)



1966/2338B

MODULE M8 – SECTION B

Monday **23 JANUARY 2006** Morning 30 minutes

Candidates answer on the question paper.

Additional materials:

- Geometrical instruments
- Tracing paper (optional)
- Scientific or graphical calculator

Candidate
Name

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Centre
Number

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Candidate
Number

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TIME 30 minutes

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers on the dotted lines unless the question says otherwise.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- There is a space after most questions. Use it to do your working. In many questions marks will be given for a correct method even if the answer is incorrect.
- Do not write in the bar code. Do not write in the grey area between the pages.
- **DO NOT WRITE IN THE AREA OUTSIDE THE BOX BORDERING EACH PAGE. ANY WRITING IN THIS AREA WILL NOT BE MARKED.**

INFORMATION FOR CANDIDATES

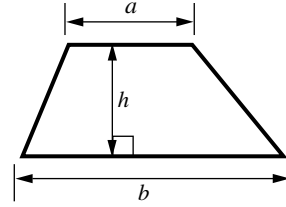
- You are expected to use a calculator in Section B of this paper.
- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this Section is 25.
- Section B starts with question 8.
- Use the π button on your calculator or take π to be 3.142 unless the question says otherwise.

FOR EXAMINER'S USE	
Section B	

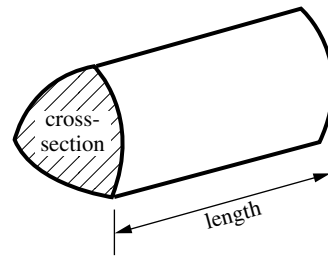
This question paper consists of 7 printed pages and 1 blank page.

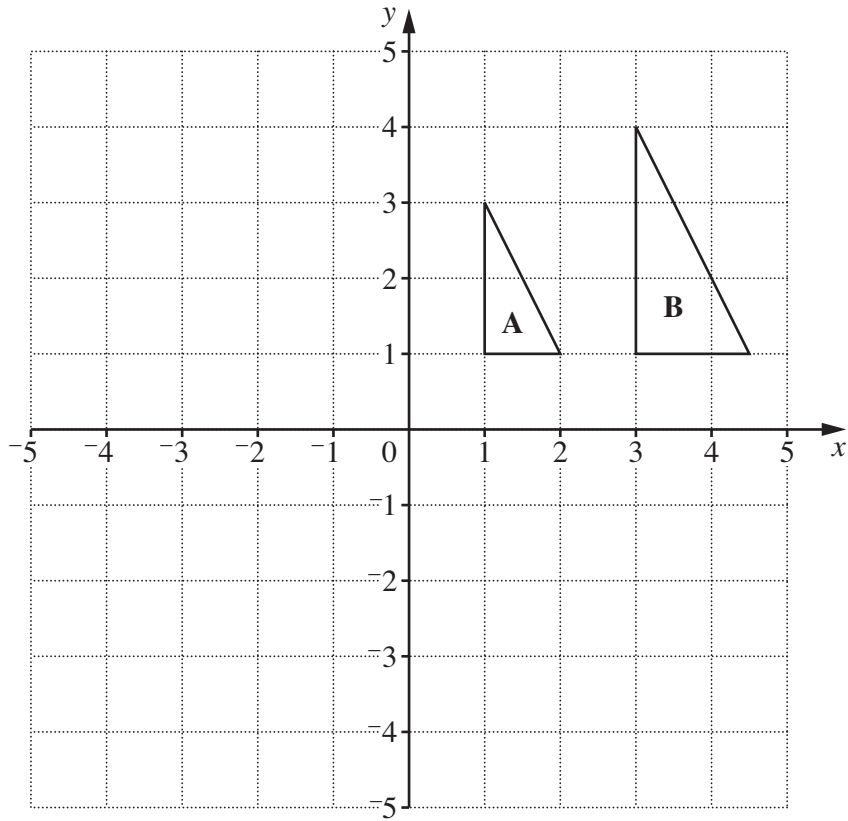
Formulae Sheet

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



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





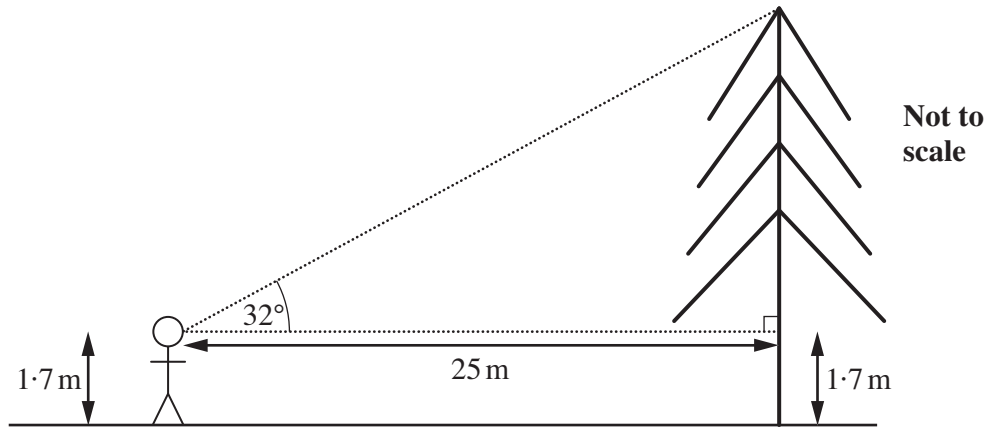
- (a) Rotate triangle **A** through 90° anticlockwise about $(2, 0)$.
Label the image **C**.
- (b) Find the centre and scale factor of the enlargement
which maps triangle **A** onto triangle **B**.

[2]

(b) Centre (.....,

Scale factor[2]

4



Sam measures the angle of elevation of the top of a tree as 32° .
 His eye is 1.7 m above the ground and 25 m from the tree.

(a) Calculate the height of the tree.

(a) m [4]

(b) The angle of elevation is 32° to the nearest degree.

What is the least possible size of this angle?

(b) $^\circ$ [1]

(c) The distance 25 m is measured to the nearest metre.

What is the upper bound of this distance?

(c) m [1]

6

10 (a) Make t the subject of these formulae.

(i) $v = u + 10t$

(a)(i)[2]

(ii) $s = 4t^2$

(ii)[2]

(b) Multiply out and simplify.

$$(x + 5)(x - 2)$$

(b)[2]

6	
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- 11 (a) This wastepaper bin is a cylinder with radius 18 cm and height 55 cm. The outside curved surface is covered in fabric.



Calculate the area of the fabric.

(a) cm^2 [3]

- (b) One year in the UK, 9.34×10^5 tonnes of card and paper were collected from domestic sources for recycling.

(i) Write 9.34×10^5 as an ordinary number.

(b)(i) [1]

- (ii) The total amount of domestic waste recycled in the UK during the same year was 2.81×10^6 tonnes.

What percentage of recycled domestic waste was card and paper?

(ii) % [2]

- (c) Exford Borough Council has set targets for the amount of waste to be recycled. Each year the amount of waste recycled is to be 11% greater than in the previous year. In 2002, the amount of waste recycled was 120 kg per household.

What is the target per household for the amount of waste to be recycled in 2006?

(c) kg [3]

9
