

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

General Certificate of Secondary Education

MATHEMATICS C
(Graduated Assessment)



1966/2343A

HIGHER TERMINAL PAPER – SECTION A

Monday **5 JUNE 2006** Afternoon 1 hour

Candidates answer on the question paper.

Additional materials:

Geometrical instruments

Tracing paper (optional)

Candidate
Name

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Centre
Number

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Candidate
Number

--	--	--	--

TIME 1 hour

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and candidate number in the boxes above.
- Answer **all** the questions.
- 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.
- 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 outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

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 50.

WARNING

**You are not allowed to use a
calculator in Section A of this paper.**

FOR EXAMINER'S USE

Section A

Section B

TOTAL

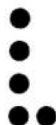
This question paper consists of 11 printed pages and 1 blank page.



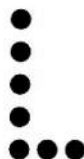
3

- 1 (a) These are the first three shapes in a sequence.

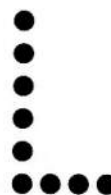
1st



2nd



3rd



Find an expression for the number of dots in the n th shape in this sequence.

(a)[2]

- (b) Expand and simplify.

$$2(3x + 1) + 5(2x - 3)$$

(b)[2]

- (c) Factorise.

$$x^2 - 7x + 10$$

(c)[2]

6

[Turn over]



658615803

- 2 (a) Work out.

$$2\frac{1}{2} + 1\frac{1}{3}$$

(a)[3]

- (b) Which one of these fractions will convert to a recurring decimal?

$$\frac{1}{5} \quad \frac{1}{7} \quad \frac{1}{8} \quad \frac{1}{20}$$

(b)[1]

- (c) Express $0.\dot{2}4$ as a fraction in its simplest form.

(c)[2]

6

- 3 Estimate the answer to $\frac{8.28 \times 10^3}{3.79 \times 10^{-2}}$.

Show clearly the values you use.

.....[3]

3



- 4 (a) Write down all the integer values of n which satisfy this inequality.

$$-5 < 3n \leq 12$$

(a)[3]

- (b) Solve, algebraically, these simultaneous equations.

$$3x - 2y = 19$$

$$2x + y = 8$$

(b) $x =$

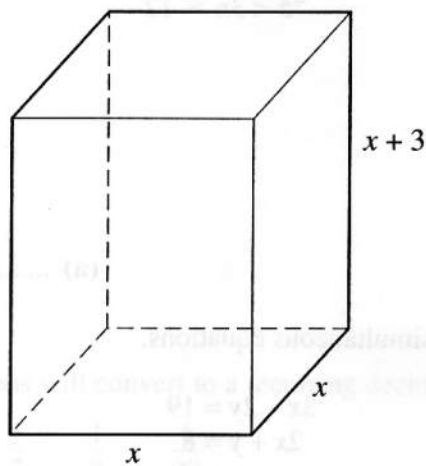
$y =$ [3]

6

[Turn over]



- 5 All the lengths in this question are in metres.



The diagram shows a cuboid.

- (a) Show that the volume, V , of the cuboid is $V = x^3 + 3x^2$.

.....

.....

.....

.....[2]

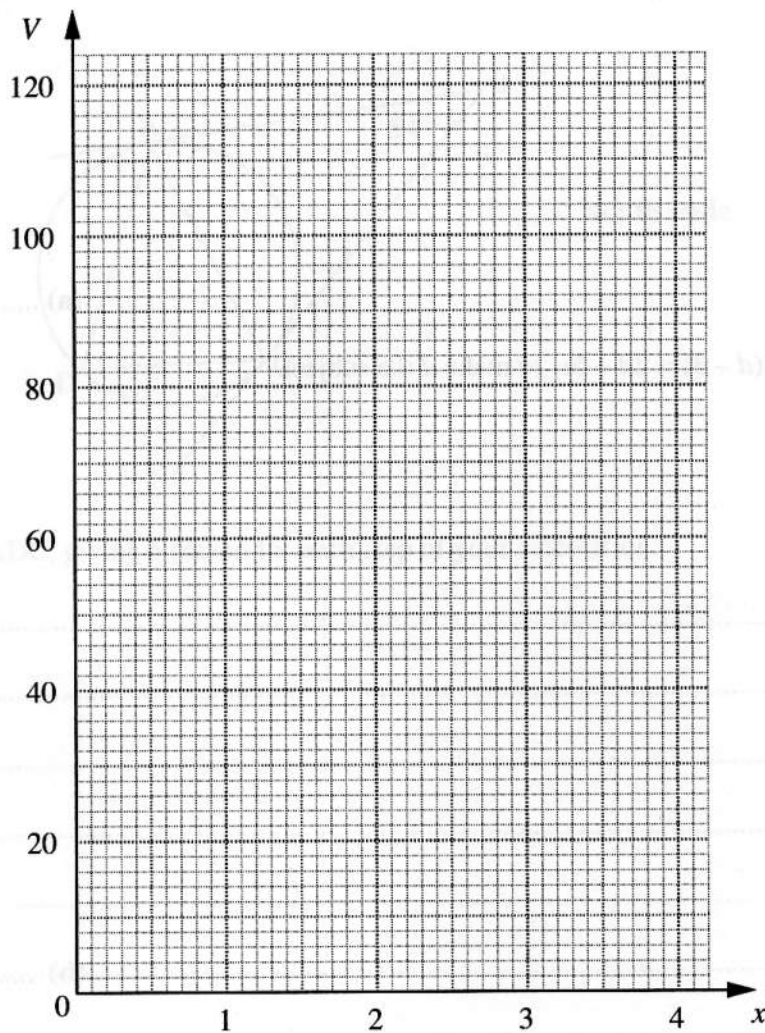
- (b) Complete the table for $V = x^3 + 3x^2$.

x	0	1	2	3	4
V	0	4	20	54	

[1]



(c) Draw the graph of $V = x^3 + 3x^2$ on the grid below.



[2]

(d) The volume of the cuboid is 30 m^3 .

Use your graph to find the length of the side x .

(d)m [1]

6

[Turn over]



- 6 (a) Rearrange $y = 5x - 3$ to make x the subject.

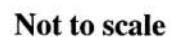
(a)[2]

- (b) Rearrange $c(d - 3) = 2d + 5c$ to make d the subject.

(b)[4]

6





[4]

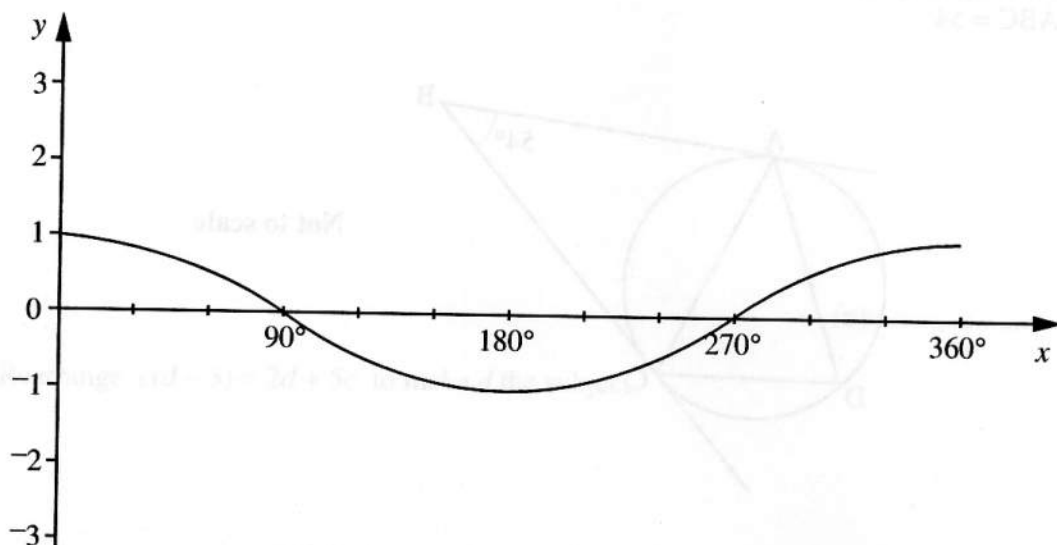
8 Work out.

.....[2]

[Turn over



- 9 This is the graph of $y = \cos x$ for $0^\circ \leq x \leq 360^\circ$.



- (a) Given that $\cos 50^\circ = 0.64$, write down the values of x between 0° and 360° for which $\cos x = -0.64$.

(a)[2]

- (b) On the diagram above, sketch the graph of $y = \cos 3x$.

[2]

4



10 Solve.

$$\frac{2}{x+4} + \frac{5}{4x-5} = 1$$



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1966/2343A

HIGHER TERMINAL PAPER – SECTION A

Date: July

5 JUNE 2000

Duration:

1 hour

Candidates should use the question paper.

Additional materials:

Geometrical Instruments

Rough paper (optional)

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Centre
Number
Candidate
Number

PLEASE DO NOT WRITE ON THIS PAGE

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(Turn over)