

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

MATHEMATICS C
(Graduated Assessment)



1966/2342A

INTERMEDIATE TERMINAL PAPER – SECTION A

Monday **5 JUNE 2006** Afternoon 1 hour

Candidates answer on the question paper.

Additional materials:

- Geometrical instruments
- Pie chart scale (optional)
- Tracing paper (optional)

Candidate
Name

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Centre
Number

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Candidate
Number

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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.

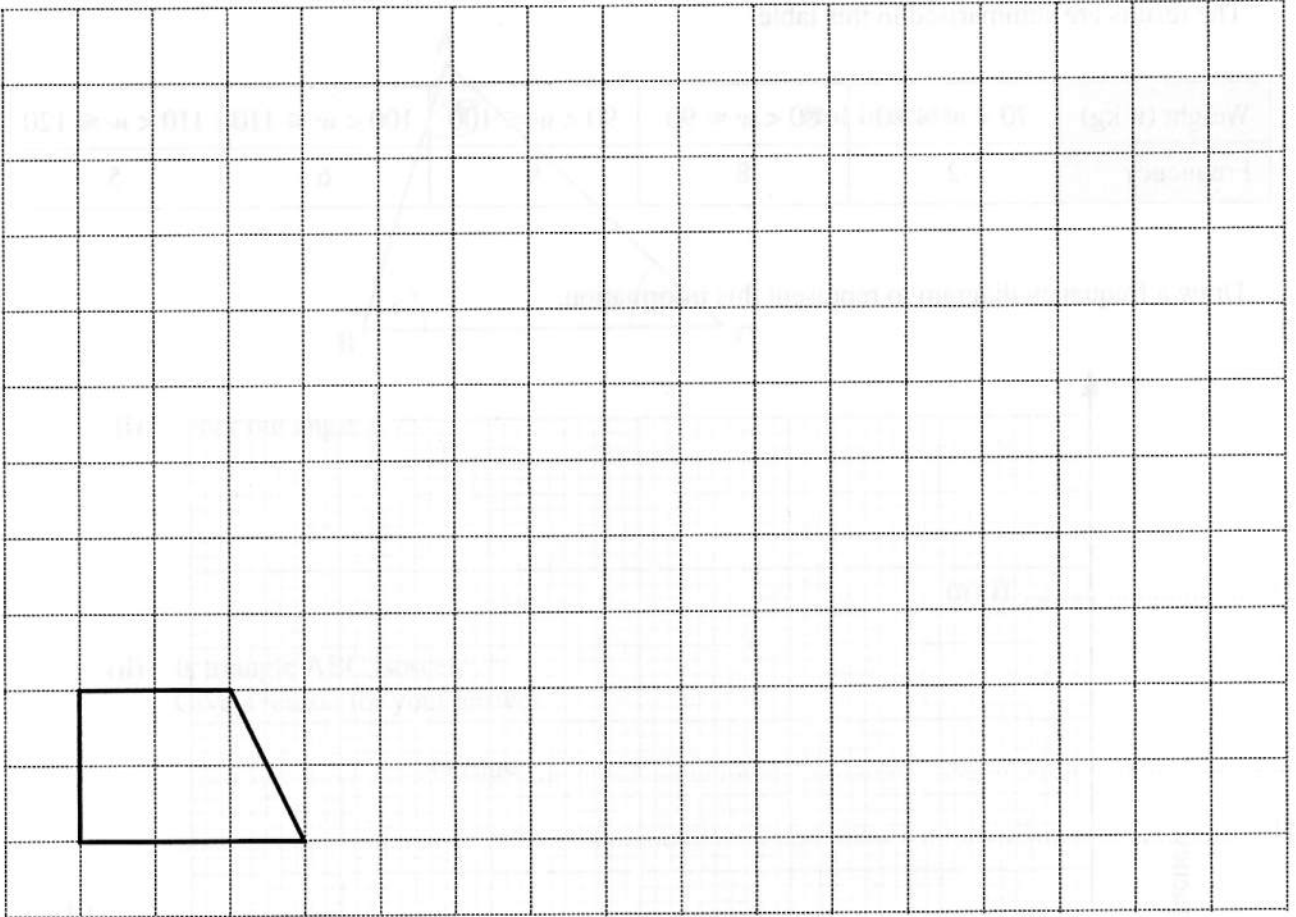
WARNING
You are not allowed to use a
calculator in Section A of this paper.

FOR EXAMINER'S USE	
Section A	
Section B	
TOTAL	

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



1



Draw an enlargement of this shape.
Use a scale factor of 3.

[2]

2	
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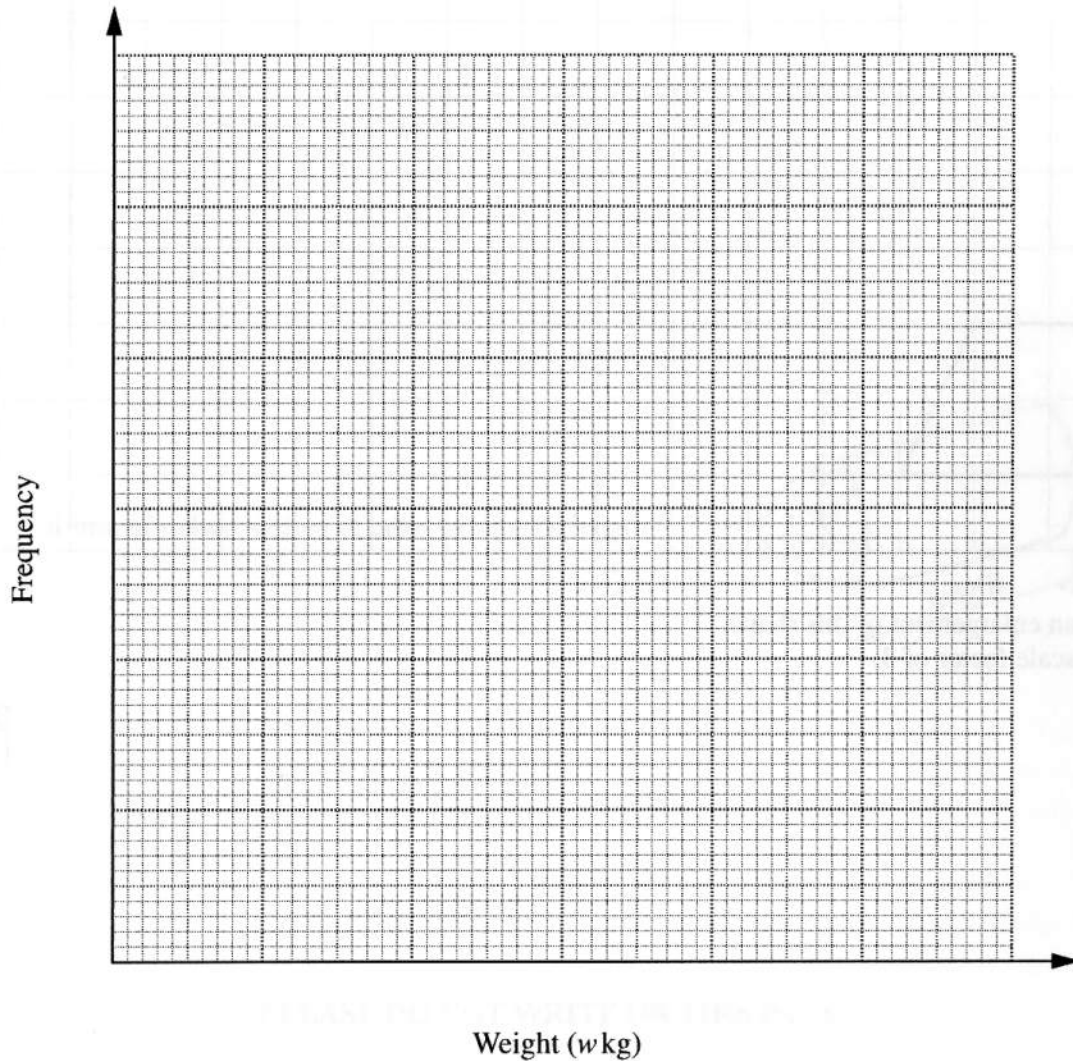
[Turn over]



- 2 The 30 players taking part in a rugby match were weighed. The results are summarised in this table.

Weight (w kg)	$70 < w \leq 80$	$80 < w \leq 90$	$90 < w \leq 100$	$100 < w \leq 110$	$110 < w \leq 120$
Frequency	2	8	9	6	5

Draw a frequency diagram to represent this information.

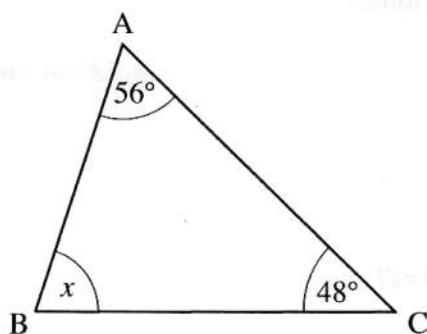


[3]

3



3 (a)



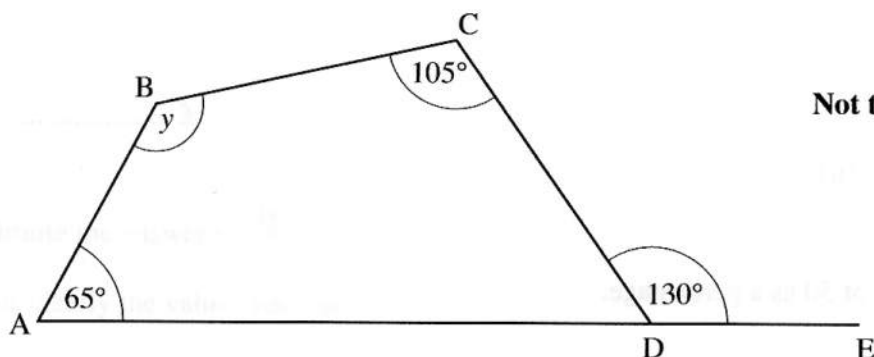
Not to scale

(i) Work out angle x .(a)(i) $^\circ$ [1]

(ii) Is triangle ABC isosceles?
Give a reason for your answer.

..... because
.....[1]

(b)



Not to scale

ADE is a straight line.

Work out angle y .
Give a reason for each step of your calculation.

$y = \dots\dots\dots^\circ$ because
.....
.....[5]

7

[Turn over]



- 4 Paula went shopping.
She bought some CDs, a ring and some clothes.

She spent a total of £160.

She spent $\frac{1}{5}$ of £160 on CDs.

She spent $\frac{3}{8}$ of £160 on the ring.

How much money did she spend on clothes?

£[4]

4

- 5 (a) Write 37 out of 50 as a percentage.

(a)% [2]



(b) Work out.

(i) 16.3×28

Show all your working.

(b)(i)[3]

(ii) $2\frac{1}{2} + 1\frac{1}{3}$

Number	1	2	3	4	5	6
Probability	0.25	0.05	0.15	0.40	0.10	0.05

(ii)[3]

(c) Estimate the answer to $\frac{38.1 \times 89}{32}$.

Show clearly the values you use.

(c)[2]

10

[Turn over]



- 6 (a) Find the value of $a^2 + a$ when $a = -5$.

(a)[2]

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

(b)[2]

4

- 7 Alex has a **biased** dice with faces numbered 1 to 6.

The table shows the probability of the dice showing each of the numbers 1 to 5.

Number	1	2	3	4	5	6
Probability	0.25	0.05	0.15	0.40	0.10	

- (a) What is the probability the dice shows 6?

(a)[2]

- (b) Alex throws the dice 200 times.

How many times would you expect the dice to show 1?

(b)[2]

4



- 8 (a) Expand and simplify.

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

(a)[2]

- (b) Factorise.

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

(b)[2]

- 9 (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.

$$3x - 2y = 19$$

$$2x + y = 8$$

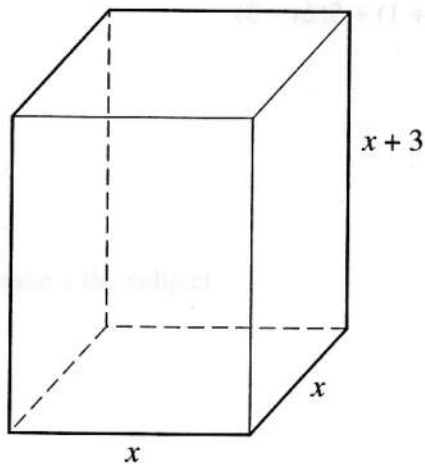
(b) $x =$

$y =$ [3]

[Turn over]



10 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]

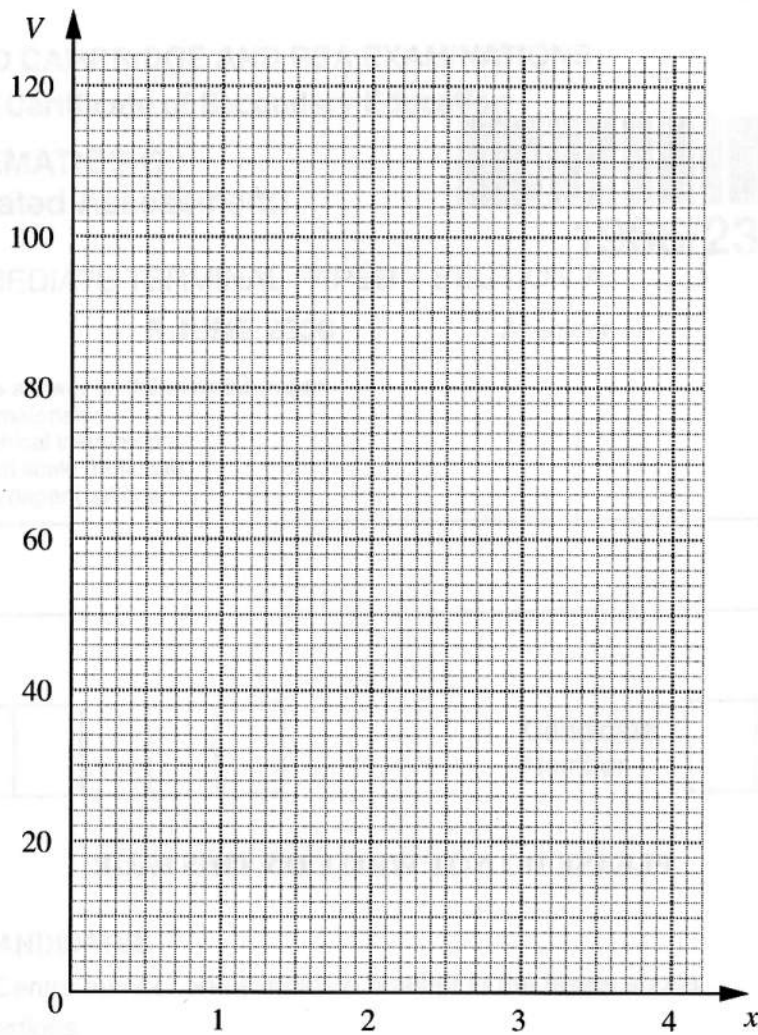
- (b) Complete the table for $V = x^3 + 3x^2$.

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

WARNING

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

FOR EXAMINER'S USE

Section 3

Section 5

TOTAL

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