

Please write clearly in block capitals.

Centre number

Candidate number

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

INTERNATIONAL AS MATHEMATICS

(9660/MA01) Unit P1 Pure Mathematics

Tuesday 6 January 2026

07:00 UK Time

Time allowed: 1 hour 30 minutes

Materials

- For this paper you must have the OxfordAQA Booklet of Formulae and Statistical Tables (enclosed).
- You may use a graphical calculator.

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.

Advice

- Unless stated otherwise, you may quote formulae, without proof, from the booklet.
- Show all necessary working; otherwise marks may be lost.

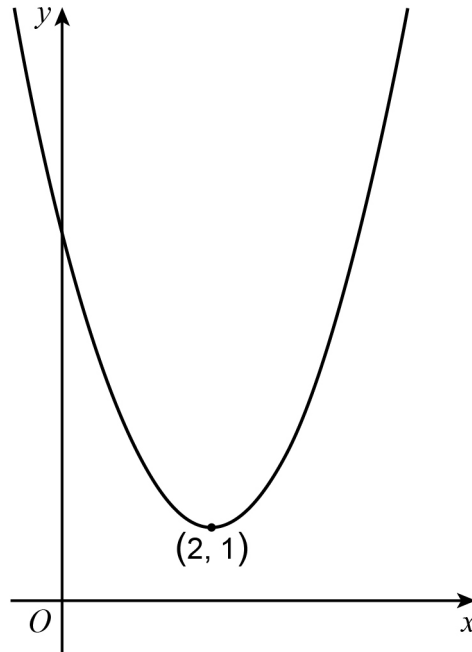
For Examiner's Use	
Question	Mark
1	
2	
3	
4	
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6	
7	
8	
9	
10	
11	
TOTAL	



Answer **all** questions in the spaces provided.

- 1 (a)** **Figure 1** shows part of the curve C with equation $y = f(x)$

Figure 1



The curve C has a single minimum point at $(2, 1)$

- 1 (a) (i)** Find the coordinates of the minimum point of the curve with equation $y = f(4x)$

Circle your answer.

[1 mark]

(0.5, 1) (2, 0.25) (2, 4) (8, 1)

- 1 (a) (ii)** Find the coordinates of the minimum point of the curve with equation $y = 4f(x)$

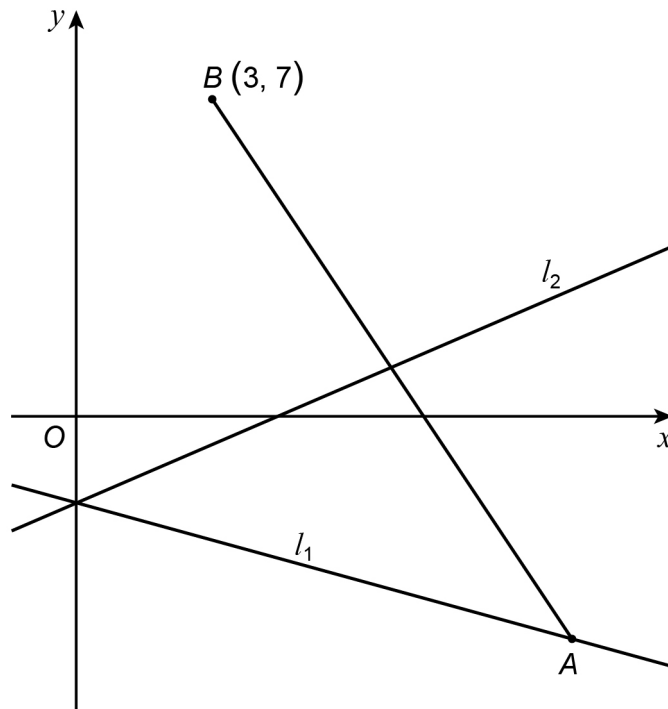
Circle your answer.

[1 mark]

(0.5, 1) (2, 0.25) (2, 4) (8, 1)



Figure 2



Find the equation of l_2

Give your answer in the form $px + qy + r = 0$ where p , q and r are integers.

[4 marks]

Answer _____

8

Turn over ►



4 A curve has equation

$$y = (3k - 1)x^2 + (7k - 4)x + (k + 4)$$

where k is a constant.

The line with equation

$$y = (3k - 5)x$$

touches the curve at exactly one point.

4 (a) Show that the x -coordinate of the point at which the curve and line touch satisfies

$$(3k - 1)x^2 + (4k + 1)x + (k + 4) = 0$$

[2 marks]

4 (b) Find the possible values of k

[5 marks]

Answer _____

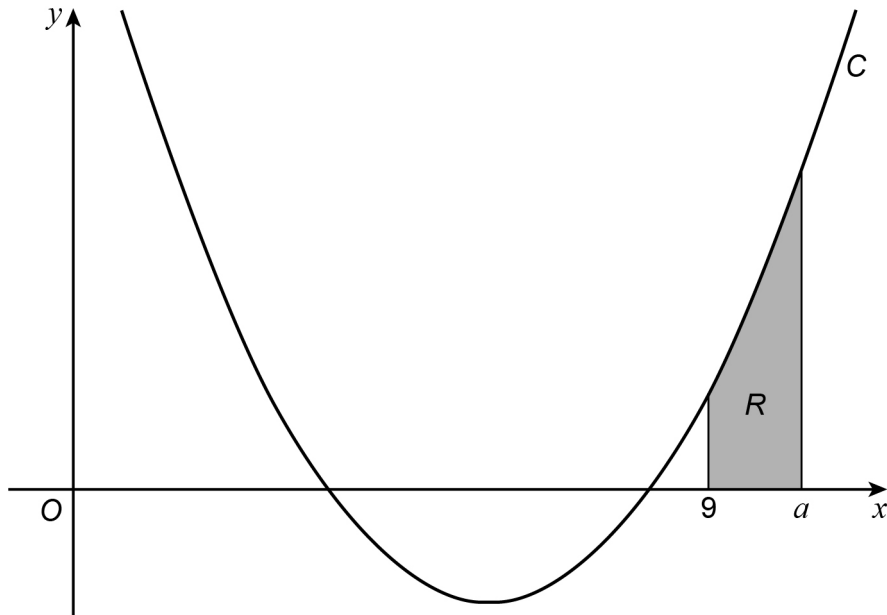
7

Turn over ►



- 7 **Figure 3** shows part of the curve C and the shaded region R

Figure 3



The equation of C is $y = 0.3x^2 - 3.6x + 9.2$

R is bounded by C , the x -axis and the lines $x = 9$ and $x = a$ where $a > 9$

- 7 (a) The area of R is 2.1 square units.

Show that a satisfies the equation

$$a^3 - 18a^2 + 92a - 120 = 0$$

[5 marks]



7 (b) (i) Use the Factor Theorem to show that $(a - 6)$ is a factor of $a^3 - 18a^2 + 92a - 120$

[2 marks]

7 (b) (ii) Hence, by expressing $a^3 - 18a^2 + 92a - 120$ as the product of three linear factors, find the value of a

[4 marks]

$a =$ _____

11

Turn over ►



10 The function f is defined by

$$f(x) = 10x\sqrt{x} - 18\sqrt{x} - 14 + \frac{4}{\sqrt{x}}$$

where $x > 0$

10 (a) Find $\int f(x) dx$

[4 marks]

Answer _____

10 (b) A curve C has equation $y = \int f(x) dx$ and passes through the point $(4, 23)$

Find the equation of C

[2 marks]

Answer _____

6

Turn over ►



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outside the
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ANSWER IN THE SPACES PROVIDED**



