



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2025

Centre Number

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Candidate Number

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Mathematics

Assessment Unit AS 1

assessing

Pure Mathematics



[SMT11]

SMT11

THURSDAY 15 MAY, AFTERNOON

TIME

1 hour 45 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

You must answer **all nine** questions in the spaces provided.

Do not write outside the boxed area on each page or on blank pages.

Complete in black ink only. **Do not write with a gel pen.**

Questions which require drawing or sketching should be completed using an HB pencil.

All working should be clearly shown in the spaces provided. Marks may be awarded for partially correct solutions. **Answers without working may not gain full credit.**

Answers should be given to three significant figures unless otherwise stated.

You are permitted to use a graphic or scientific calculator in this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

A copy of the **Mathematical Formulae and Tables booklet** is provided.

Throughout the paper the logarithmic notation used is $\ln z$ where it is noted that $\ln z \equiv \log_e z$

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24SMT1101



Handwriting practice area with 20 horizontal dotted lines.

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24SMT1103

2 Fig. 1 below shows a sketch of the graph of the function $y = f(x)$

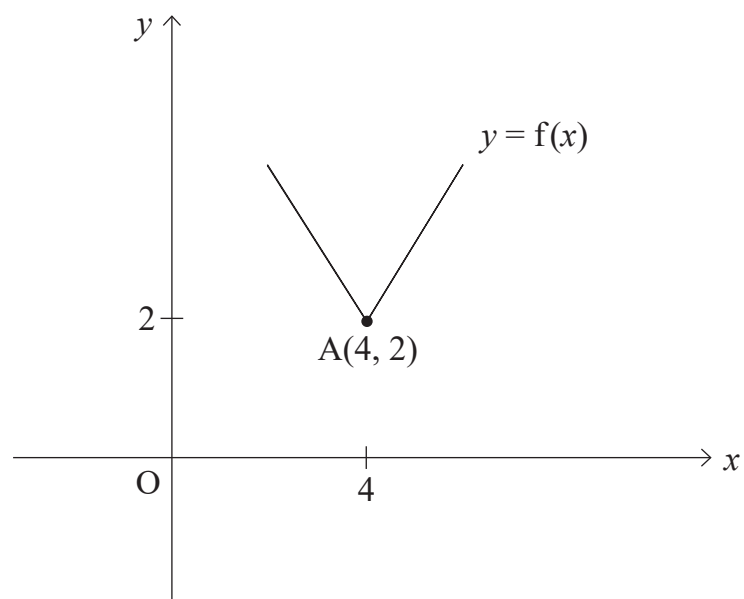


Fig. 1

Point A has coordinates (4, 2).

Sketch, on the axes opposite, the graphs of:

(i) $y = f(x - 2)$

[2]

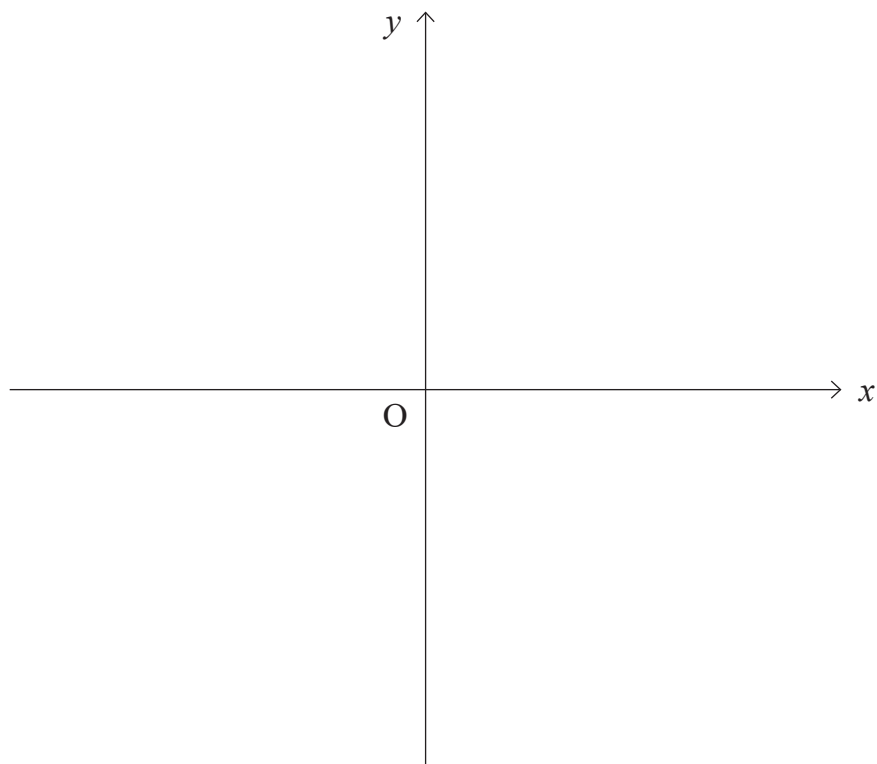
(ii) $y = f(-x)$

[2]

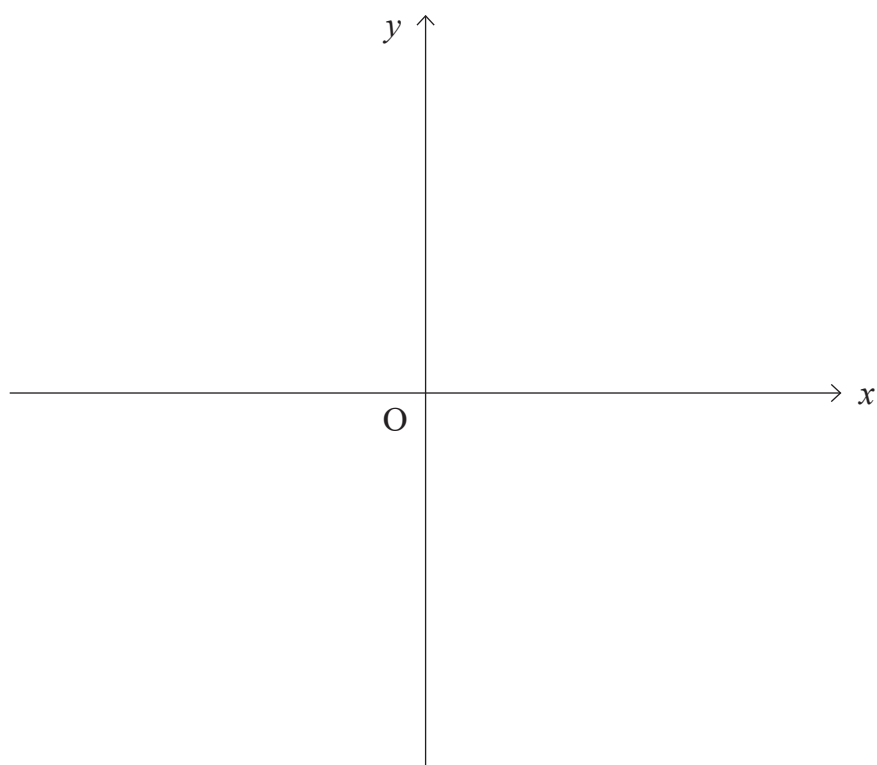
clearly labelling the image of the point A in each case.



(i)



(ii)





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24SMT1110



7 Fig. 3 below shows a solid prism.

Its cross-section is formed by joining an isosceles triangle to a rectangle.

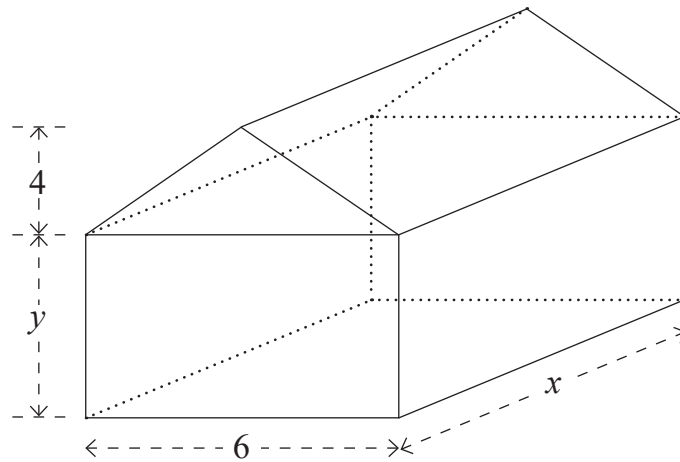


Fig. 3

The rectangle has width 6 metres and height y metres.
The isosceles triangle has perpendicular height 4 metres.

The prism has length x metres and volume 120 m^3

(i) Show that

$$y = \frac{20}{x} - 2 \quad [4]$$

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For Examiner's use only	
Question Number	Marks
1	
2	
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7	
8	
9	

Total Marks	
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Examiner Number

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