

Paper Reference 9MA0/01
Pearson Edexcel
Level 3 GCE

Mathematics
Advanced
PAPER 1: Pure Mathematics 1

Wednesday 4 June 2025 – Afternoon

Time: 2 hours

Diagram Booklet

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END OF THE EXAMINATION.

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

INSTRUCTIONS

There may be spare copies of some diagrams.

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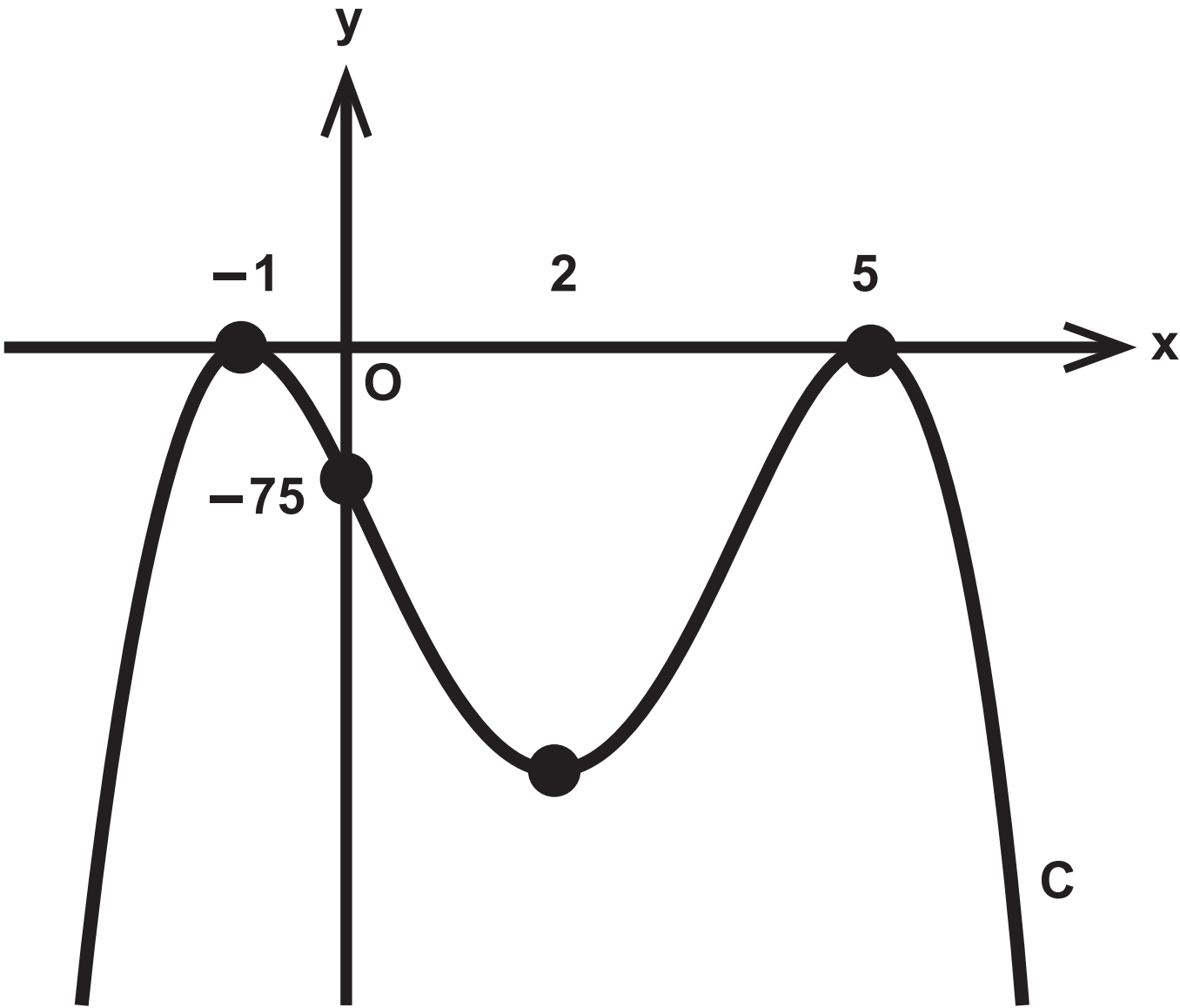
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Spare Copies

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Question 7



Question 8

Let $m = 5k$

Consider $m^2 = (5k)^2 = 25k^2 = 5 \times 5k^2 = 5n$ where $n = 5k^2$ ✓

Let $m = 5k + 1$

Consider $m^2 = (5k + 1)^2$

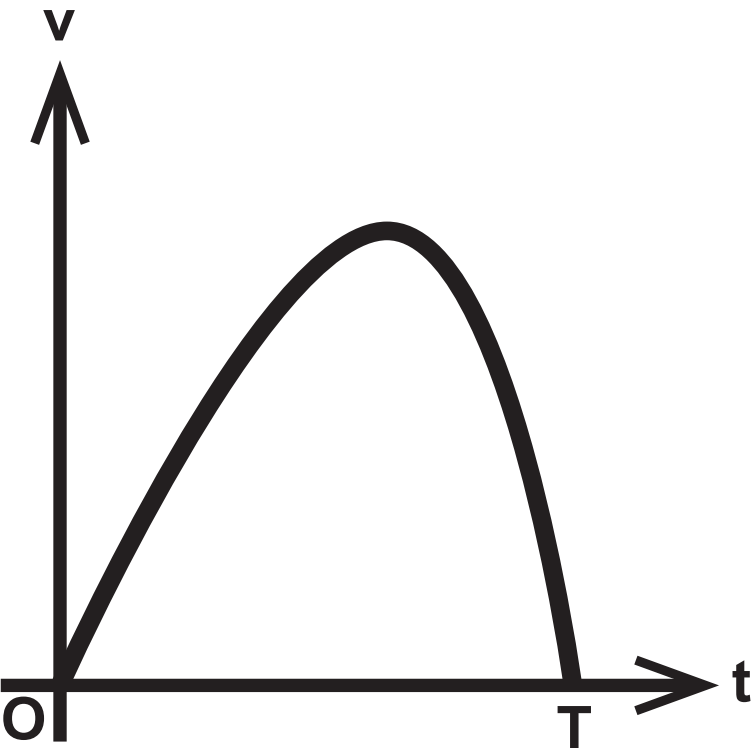
$$= 25k^2 + 10k + 1 = 5(5k^2 + 2k) + 1 = 5n + 1 \quad \text{where } n = 5k^2 + 2k \quad \checkmark$$

Let $m = 5k + 2$

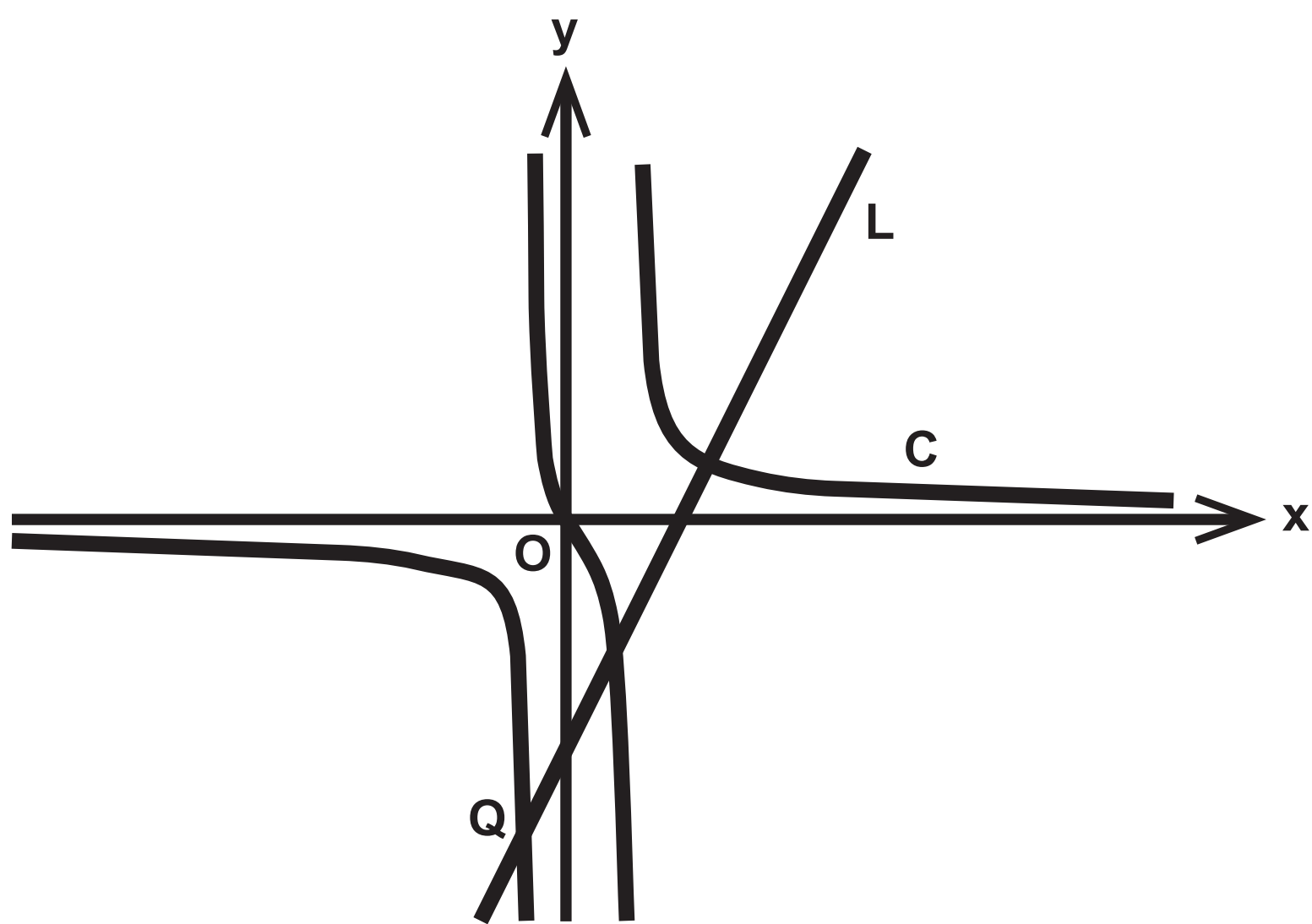
Consider $m^2 = (5k + 2)^2$

$$= 25k^2 + 10k + 4 = 5(5k^2 + 2k + 1) - 1 = 5n - 1 \quad \text{where } n = 5k^2 + 2k + 1 \quad \checkmark$$

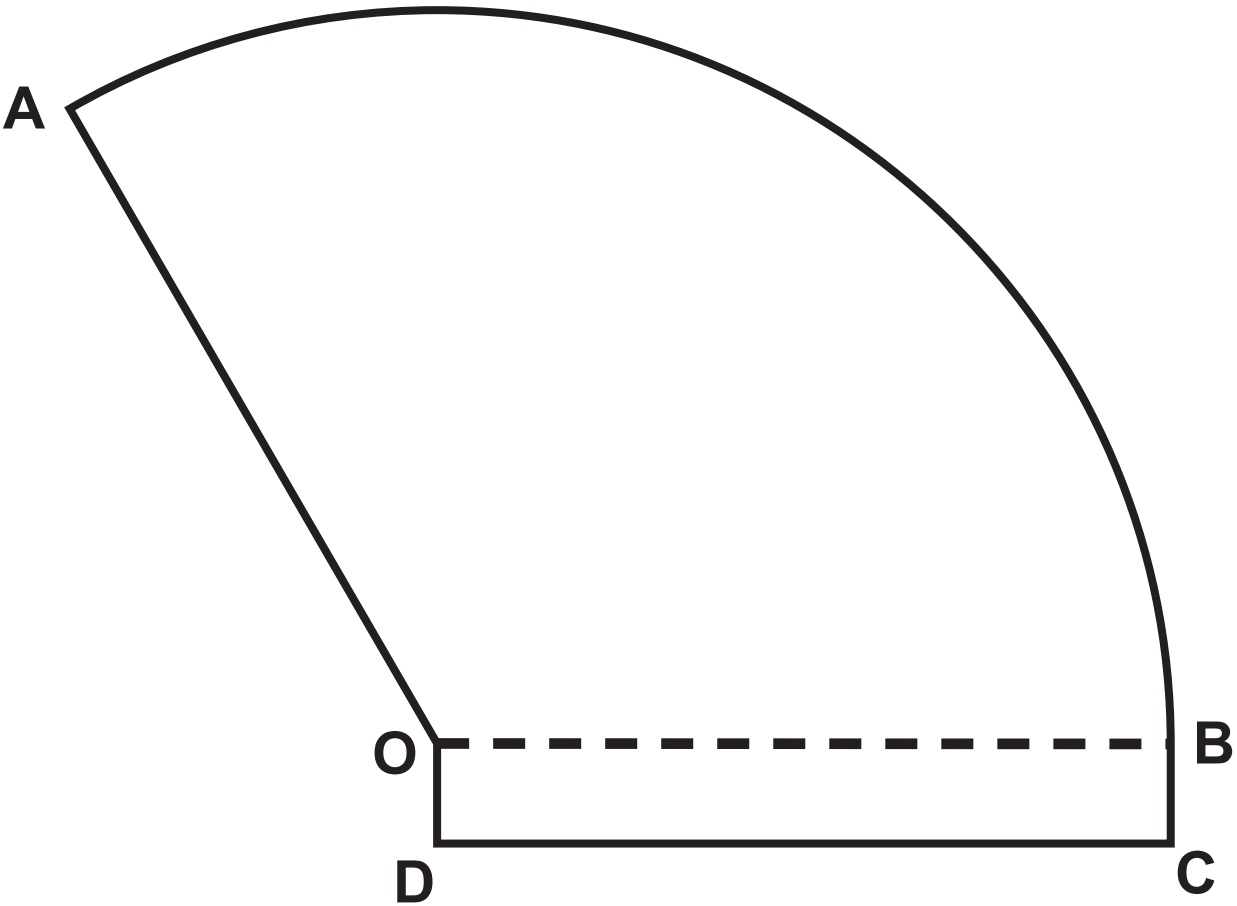
Question 9



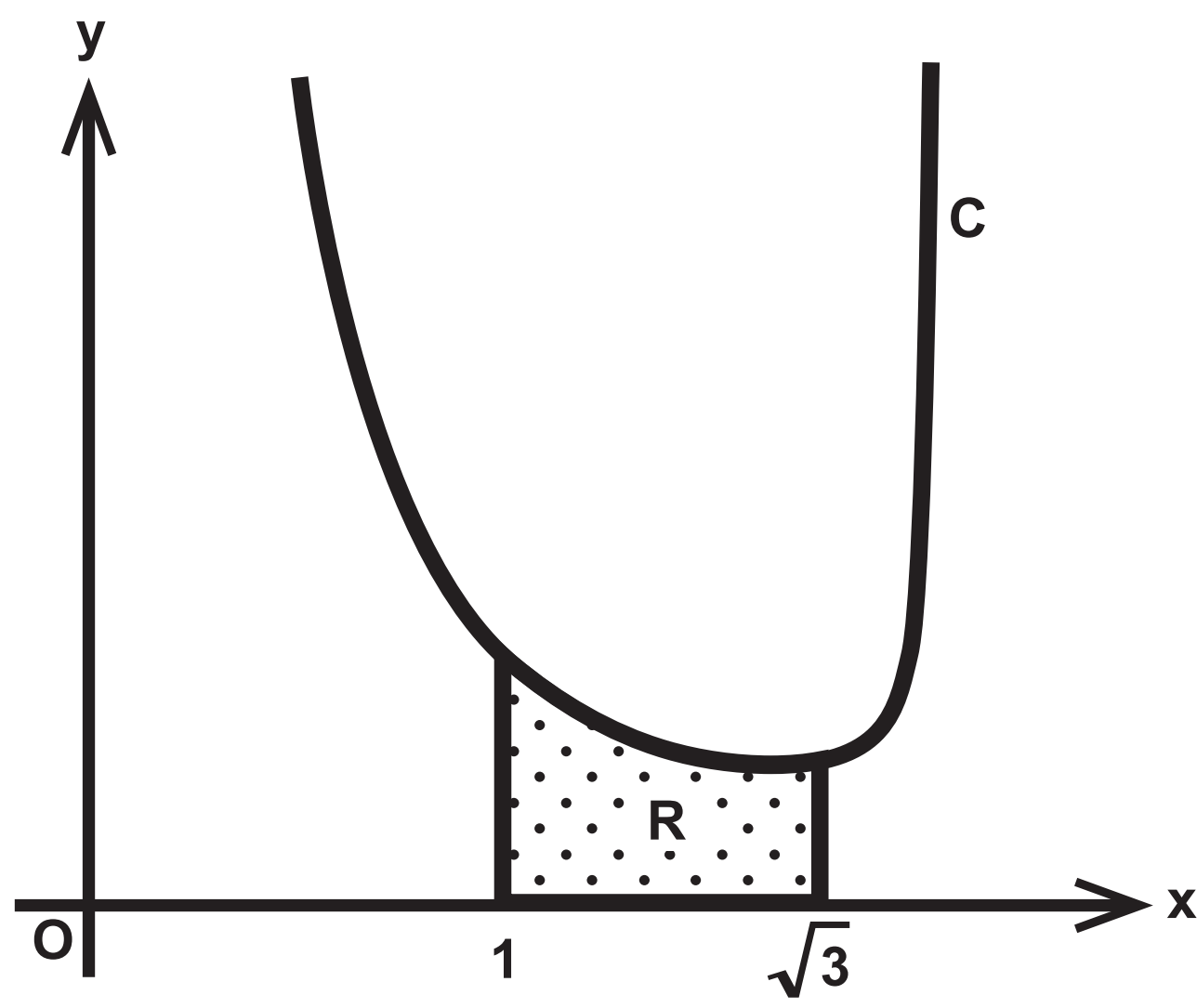
Question 12



Question 15



Question 16



Question 8 – spare copy

Let $m = 5k$

$$\text{Consider } m^2 = (5k)^2 = 25k^2 = 5 \times 5k^2 = 5n \quad \text{where } n = 5k^2 \quad \checkmark$$

Let $m = 5k + 1$

$$\text{Consider } m^2 = (5k + 1)^2$$

$$= 25k^2 + 10k + 1 = 5(5k^2 + 2k) + 1 = 5n + 1 \quad \text{where } n = 5k^2 + 2k \quad \checkmark$$

Let $m = 5k + 2$

$$\text{Consider } m^2 = (5k + 2)^2$$

$$= 25k^2 + 10k + 4 = 5(5k^2 + 2k + 1) - 1 = 5n - 1 \quad \text{where } n = 5k^2 + 2k + 1 \quad \checkmark$$