1. **In this question you must show all stages in your working.**

Solutions relying on calculator technology are not acceptable.

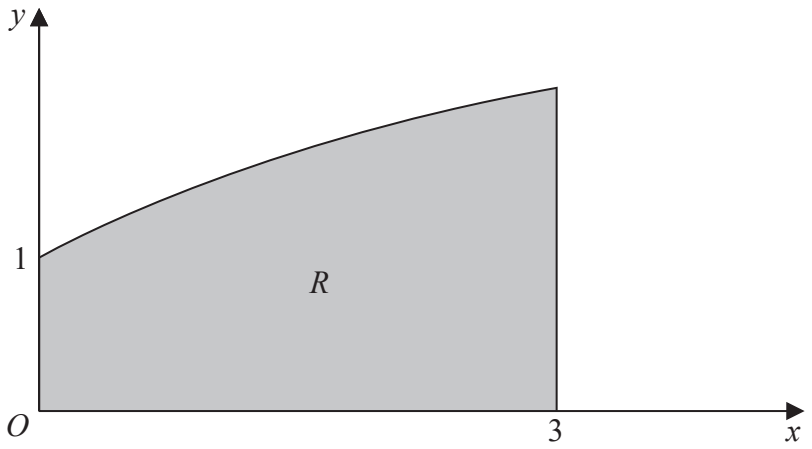


Figure 1

The finite region R, shown shaded in Figure 1, is bounded by the x-axis, the line with equation $x = 3$, the curve with equation $y = \sqrt{(x + 1)}$ and the y-axis.
Find the ***y* coordinate** of the centre of mass of a uniform lamina in the shape of R.

(5)

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Question 1 continued

(Total for Question 1 is 5 marks)