1.

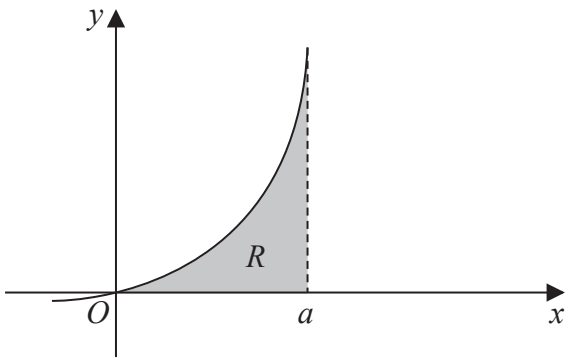


Figure 1

A uniform lamina is in the shape of the region R.

Region R is bounded by the curve with equation $y = x(x + a)$ where a is a positive constant, the positive x-axis and the line with equation $x = a$, as shown shaded in Figure 1.

Find the ***y* coordinate** of the centre of mass of the lamina.

(7)

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Question 1 continued

(Total for Question 1 is 7 marks)

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