1.

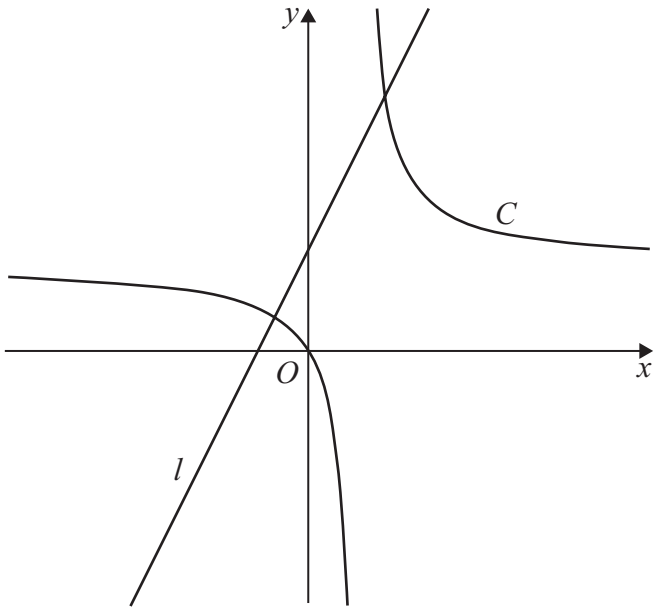


Figure 1

In this question you must show all stages of your working.
Solutions relying on calculator technology are not acceptable.

Figure 1 shows a sketch of the curve C with equation

$$y = \frac{10x}{x - 6} \qquad x \neq 6$$

and the line l with equation $y = 2x + 12$

(a) Use algebra to determine the x coordinates of the points of intersection of C and l

(2)

(b) Determine the range of values of x for which

(i) $2x + 12 > \dfrac{10x}{x-6}$

(ii) $|2x + 12| > \left|\dfrac{10x}{x-6}\right|$

(4)

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Question 1 continued

(Total for Question 1 is 6 marks)