

12.

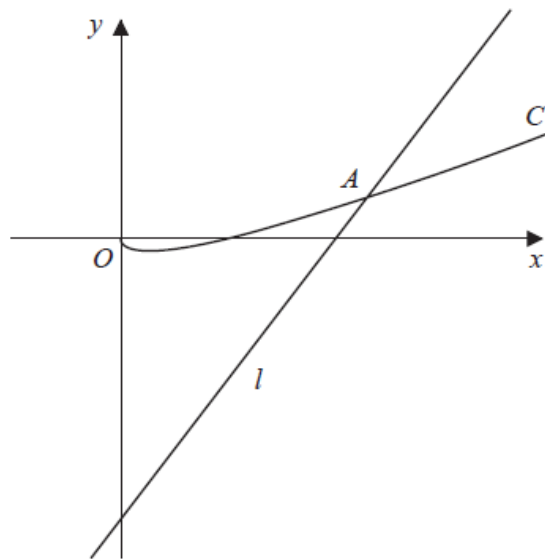


Figure 3

Figure 3 shows a sketch of the curve C with equation $y = 3x - 2\sqrt{x}$, $x \geq 0$ and the line l with equation $y = 8x - 16$.

The line cuts the curve at point A as shown in Figure 3.

(a) Using algebra, find the x -coordinate of point A .

(5)

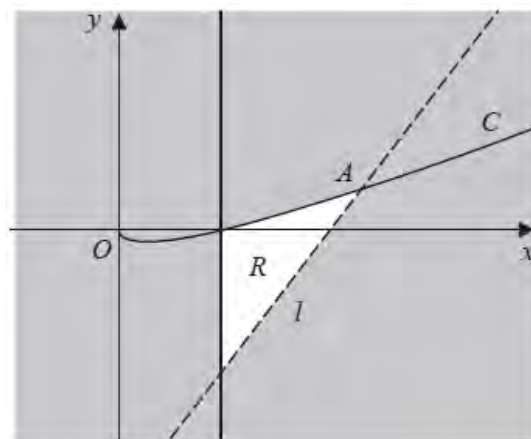


Figure 4

The region R is shown unshaded in Figure 4.

(b) Identify the inequalities that define R .

(3)

(Total for Question 12 is 8 marks)