

15.

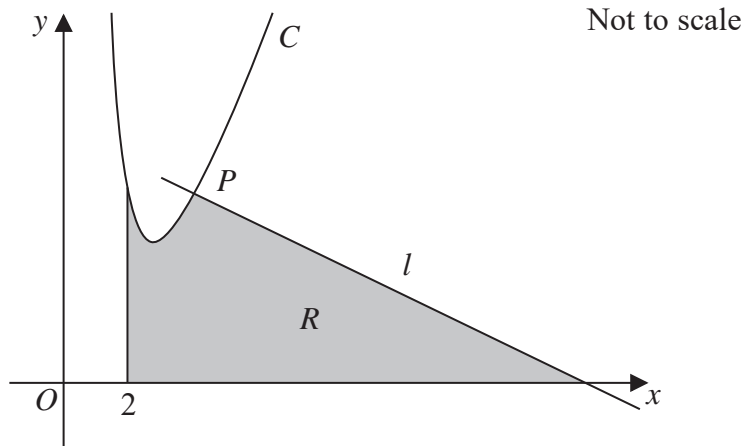
**Figure 4**

Figure 4 shows a sketch of part of the curve C with equation

$$y = \frac{32}{x^2} + 3x - 8, \quad x > 0$$

The point $P(4, 6)$ lies on C .

The line l is the normal to C at the point P .

The region R , shown shaded in Figure 4, is bounded by the line l , the curve C , the line with equation $x = 2$ and the x -axis.

Show that the area of R is 46

(Solutions based entirely on graphical or numerical methods are not acceptable.)