

13.

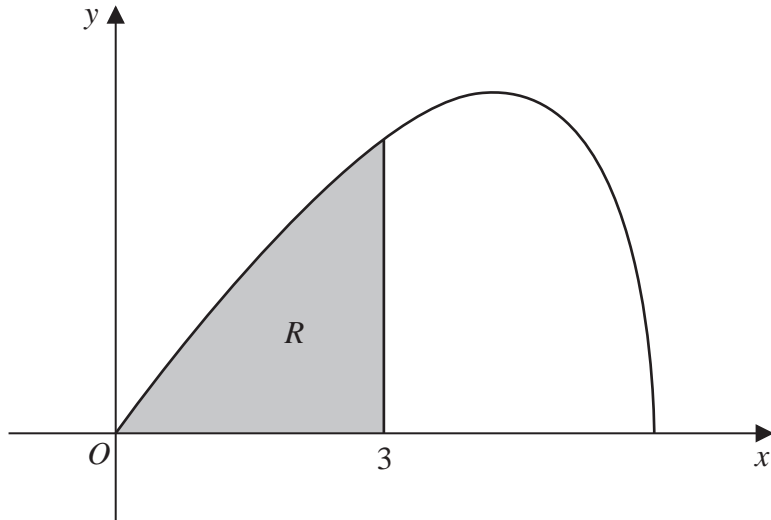


Figure 6

Figure 6 shows the curve with parametric equations

$$x = 6 \cos t \quad y = 5 \sin 2t \quad 0 \leq t \leq \frac{\pi}{2}$$

The finite region R , shown shaded in Figure 6, is bounded by the curve, the x -axis, and the line with equation $x = 3$

Use calculus to show that the area of R is $20 - \frac{15}{2}\sqrt{3}$

(7)