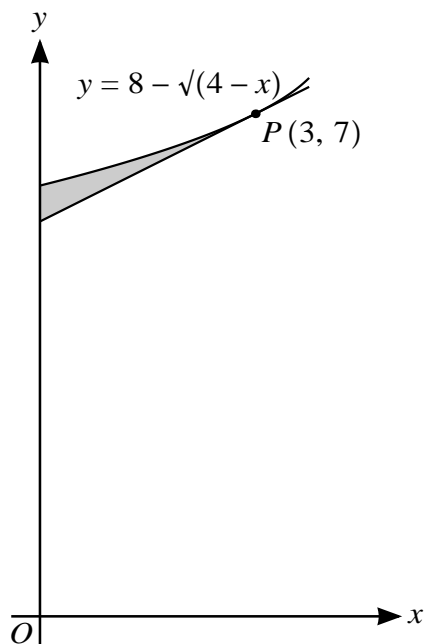


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The diagram shows part of the curve  $y = 8 - \sqrt{4-x}$  and the tangent to the curve at  $P(3, 7)$ .

- (i) Find expressions for  $\frac{dy}{dx}$  and  $\int y \, dx$ . [5]
- (ii) Find the equation of the tangent to the curve at  $P$  in the form  $y = mx + c$ . [2]
- (iii) Find, showing all necessary working, the area of the shaded region. [4]