7 The equation of a curve is $y = \dfrac{12}{x^2 + 3}$.

(i) Obtain an expression for $\dfrac{\mathrm{d}y}{\mathrm{d}x}$. [2]

(ii) Find the equation of the normal to the curve at the point $P\,(1,\ 3)$. [3]

(iii) A point is moving along the curve in such a way that the x-coordinate is increasing at a constant rate of 0.012 units per second. Find the rate of change of the y-coordinate as the point passes through P. [2]