

10 The equation of a curve is $y = 2x + \frac{8}{x^2}$.

(i) Obtain expressions for $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$. [3]

(ii) Find the coordinates of the stationary point on the curve and determine the nature of the stationary point. [3]

(iii) Show that the normal to the curve at the point $(-2, -2)$ intersects the x -axis at the point $(-10, 0)$. [3]

(iv) Find the area of the region enclosed by the curve, the x -axis and the lines $x = 1$ and $x = 2$. [3]