

10 A curve is such that $\frac{dy}{dx} = \frac{16}{x^3}$, and $(1, 4)$ is a point on the curve.

(i) Find the equation of the curve. [4]

(ii) A line with gradient $-\frac{1}{2}$ is a normal to the curve. Find the equation of this normal, giving your answer in the form $ax + by = c$. [4]

(iii) Find the area of the region enclosed by the curve, the x -axis and the lines $x = 1$ and $x = 2$. [4]