

4 A curve is such that $\frac{dy}{dx} = 2 - 8(3x + 4)^{-\frac{1}{2}}$.

- (i) A point P moves along the curve in such a way that the x -coordinate is increasing at a constant rate of 0.3 units per second. Find the rate of change of the y -coordinate as P crosses the y -axis. [2]

The curve intersects the y -axis where $y = \frac{4}{3}$.

- (ii) Find the equation of the curve. [4]