

- A curve is such that $\frac{dy}{dx} = \frac{6}{(3x-2)^3}$ and $A(1, -3)$ lies on the curve. A point is moving along the curve and at A the y -coordinate of the point is increasing at 3 units per second.

(a) Find the rate of increase at A of the x -coordinate of the point.

[3]

This image shows a full page of white paper with horizontal dotted lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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

[4]