

10 A curve has equation $y = \frac{1}{2}(4x - 3)^{-1}$. The point A on the curve has coordinates $(1, \frac{1}{2})$.

(i) (a) Find and simplify the equation of the normal through A .

[5]

[illegible]

- (b)** Find the x -coordinate of the point where this normal meets the curve again. [3]

[illegible]

- (ii) A point is moving along the curve in such a way that as it passes through A its x -coordinate is decreasing at the rate of 0.3 units per second. Find the rate of change of its y -coordinate at A . [2]

[illegible]