

20th March

Corbettmaths

The line L1 passes through the point A(4, 2) and has gradient $-\frac{1}{3}$

Find an equation for L1, giving your answer in the form $y = mx + c$

The point B lies on L1 and has x-coordinate equal to k.

The length of AB is 8.

Find an equation involving k.

Solve the equation

$$4x - 13x^{\frac{1}{2}} + 3 = 0$$

Given that

$$\frac{dy}{dx} = \frac{(3 - \sqrt{x})^2}{\sqrt{x}}$$

and that $y = 2$ when $x = 1$

Find y in terms of x

The curve C with equation $y = 4x^2 - 4x + 1$ has a normal with equation $y = 2x + c$

Find c