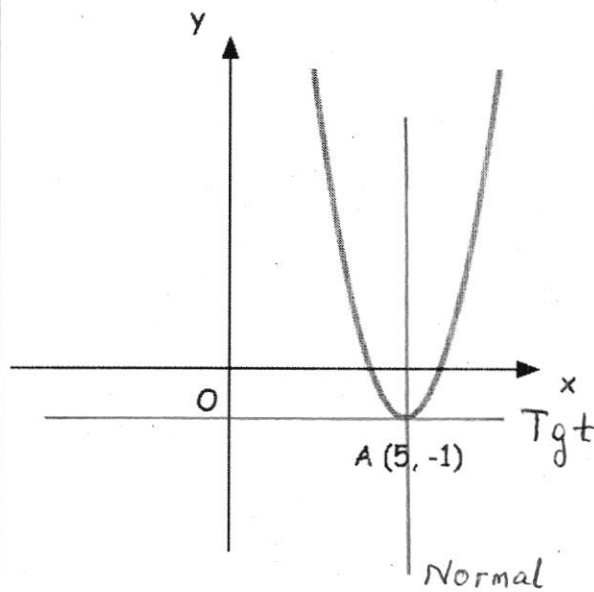


12th November



Corbettmaths



Write down the equation of the tangent at the point A

$$\underline{y = -1}$$

Write down the equation of the normal at the point A

$$\underline{x = 5}$$

$$y = \frac{9x^2 - 2x^4}{3x}$$

Work out the possible values of x when

$$\frac{dy}{dx} = -389$$

$$y = 3x - \frac{2}{3}x^3$$

$$\frac{dy}{dx} = 3 - 2x^2 = -389$$

$$2x^2 = 392$$

$$x^2 = 196$$

$$\underline{x = \pm 14}$$

$$g(x) = 8 - \frac{1 - 2x}{7}$$

Solve  $g^{-1}(x) = -1$ 

$$g g^{-1}(x) = g(-1)$$

$$x = g(-1) = 8 - \frac{3}{7}$$

$$\underline{x = \frac{53}{7}}$$

Circle 1 has an equation of  $(x - 8)^2 + (y + 1)^2 = 49$ Circle 2 has an equation of  $(x + 1)^2 + (y + 3)^2 = 144$ 

Calculate the distance between the centres of Circle 1 and Circle 2

$$(8, -1) \quad (-1, -3)$$

$$\sqrt{9^2 + 2^2} = \underline{\sqrt{85} \quad (9.22)}$$