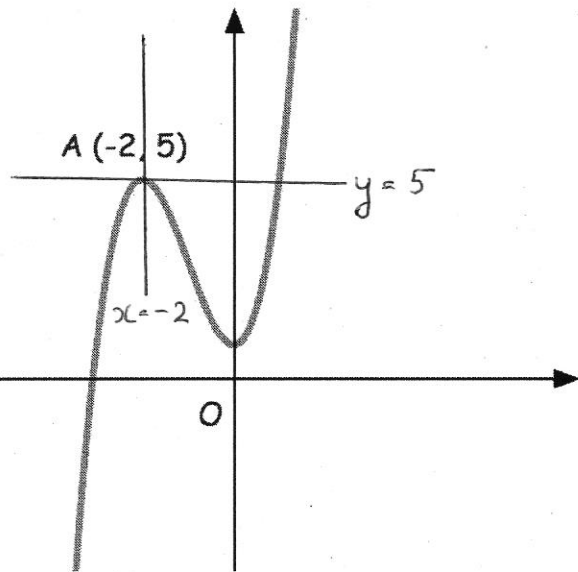


15th August



Corbettmaths



Write down the equation of the tangent to the curve at A

$$y = 5$$

Write down the equation of the normal to the curve at A

$$x = -2$$

Use the factor theorem to show that $(2x - 3)$ is a factor of $2x^3 + x^2 - 12x + 9 = f(x)$

$$f\left(\frac{3}{2}\right) = \frac{27}{4} + \frac{9}{4} - 18 + 9 = 0$$

$$\Rightarrow \underline{2x - 3 \text{ factor}}$$

Hence, factorise fully $2x^3 + x^2 - 12x + 9$

$$= (2x - 3)(x^2 + 2x - 3)$$

$$= \underline{(2x - 3)(x - 1)(x + 3)}$$

Solve $-5\cos x = 9\sin x$

for $0^\circ \leq x \leq 360^\circ$

$$-\frac{5}{9} = \tan x$$

$$\underline{x = 150.9^\circ, 330.9^\circ}$$