

6th April



Corbettmaths

Solve the equation

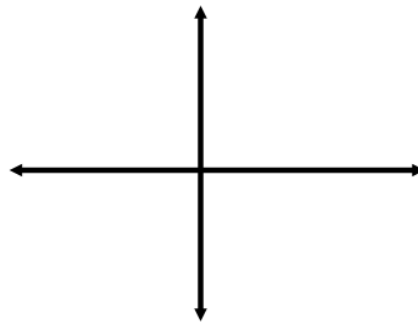
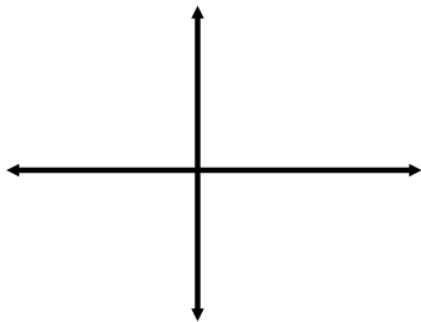
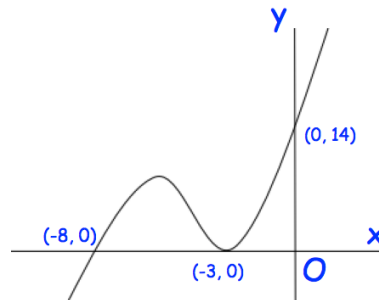
$$2x + \frac{9}{x} = 9$$

Shown is a sketch of a curve with equation  $y = f(x)$

Sketch

(a)  $y = f(2x)$

(b)  $y = 3f(x)$



The curve C has equation  $y = f(x)$   
Given

$$\frac{dy}{dx} = 3x^2 + 4x + k$$

and the curve C passes through the points (0, 1) and (2, 23)

Show  $k = 3$  and find the equation for C

The line  $y = 2x + 1$  is a tangent to C. Find the coordinates of the point of contact.