

22nd May

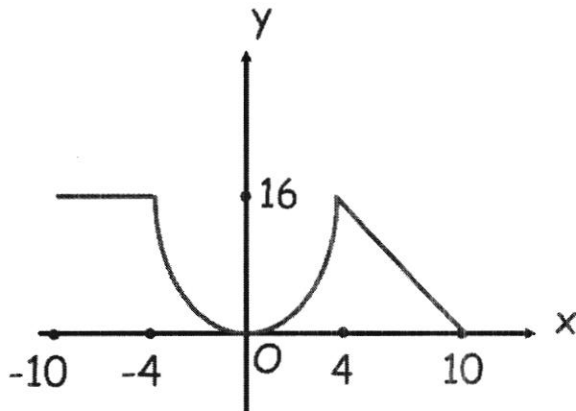
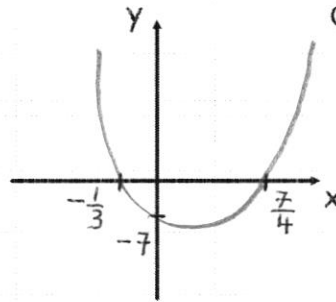


Corbettmaths

Sketch the graph of  
 $y = 12x^2 - 17x - 7$

clearly show the coordinates of any points of intersection with the axes.

$$y = (4x - 7)(3x + 1)$$



The graph of  $y = f(x)$  is shown above.

The graph consists of a quadratic and two straight lines.

Complete the following to describe  $f(x)$

$$f(x) = \begin{matrix} 16 & -10 \leq x < -4 \\ x^2 & -4 \leq x < 4 \\ -\frac{8}{3}x + \frac{80}{3} & 4 \leq x \leq 10 \end{matrix}$$

A curve has equation  
 $y = 2x^2 - 3x + 1$

The gradient of the curve at point P is 9  
 Work out the coordinates of the point P.

$$\frac{dy}{dx} = 4x - 3$$

$$\begin{aligned} \text{At P } 4x - 3 &= 9 \\ \Rightarrow x &= 3 \\ \Rightarrow P &= (3, 10) \end{aligned}$$

Describe fully the **single** transformation represented by  $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$

$$(1, 0) \rightarrow (0, -1)$$

$$(0, 1) \rightarrow (1, 0)$$

Rotation  $90^\circ$  clockwise about  $(0, 0)$ .