

12th April



Corbettmaths

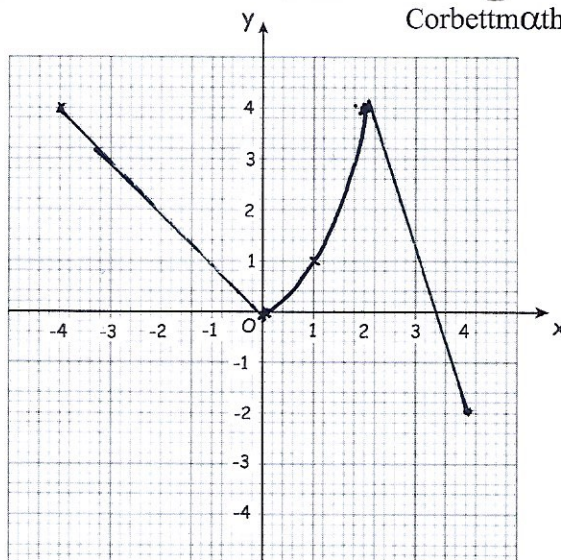
A function $f(x)$ is defined as

$$f(x) = -x \quad -4 \leq x < 0$$

$$= x^2 \quad 0 \leq x < 2$$

$$= 10 - 3x \quad 2 \leq x \leq 4$$

Draw the graph of $y = f(x)$



Work out the equation of the line of symmetry of the graph

$$y = 3x^2 + 8x + 5$$

$$(3x + 5)(x + 1)$$

$$x = -\frac{5}{3} \quad x = -1$$

$$-\frac{5}{3} + (-1) = -\frac{8}{3}$$

$$-\frac{8}{3} \div 2 = -\frac{4}{3}$$

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

The curve $y = f(x)$ has two stationary points.

$$f(0) = 9 \quad f(2) = 3 \quad \text{and} \quad f(6) = 10$$

$x < 2$	$x = 2$	$2 < x < 6$	$x = 6$	$x > 6$
$\frac{dy}{dx} < 0$	$\frac{dy}{dx} = 0$	$\frac{dy}{dx} > 0$	$\frac{dy}{dx} = 0$	$\frac{dy}{dx} < 0$

Sketch the curve.
Label the coordinates of each stationary point

