

25th January



Corbettmaths

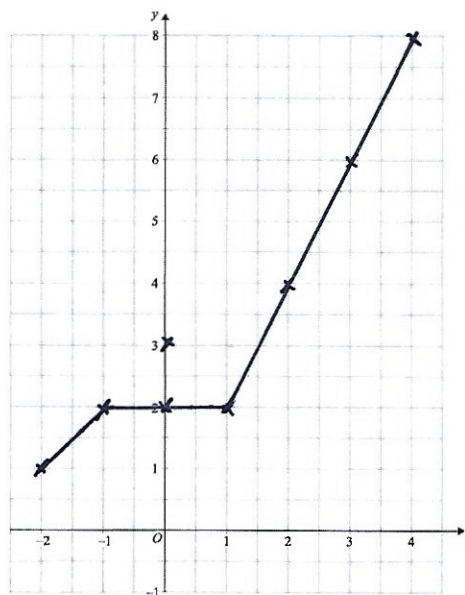
A function $f(x)$ is defined as

$$f(x) = x + 3 \quad -2 \leq x < -1$$

$$= 2 \quad -1 \leq x < 1$$

$$= 2x \quad 1 \leq x \leq 4$$

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



The line passing through $(-3, \overset{x_1}{y_1} 6)$ and $(g, -5g)$ has a gradient of -3

Find g .

$$2g = 15$$

$$g = 7.5$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$-3 = \frac{-5g - (-6)}{g - (-3)} = \frac{-5g + 6}{g + 3}$$

$$-3g + 9 = -5g + 6$$

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

$f(0) = 1$ $f(3) = 8$ and $f(7) = 2$

$x < 3$	$x = 3$	$3 < x < 7$	$x = 7$	$x > 7$
$\frac{dy}{dx} > 0$	$\frac{dy}{dx} = 0$	$\frac{dy}{dx} < 0$	$\frac{dy}{dx} = 0$	$\frac{dy}{dx} > 0$

Sketch the curve.
Label the coordinates of each stationary point

