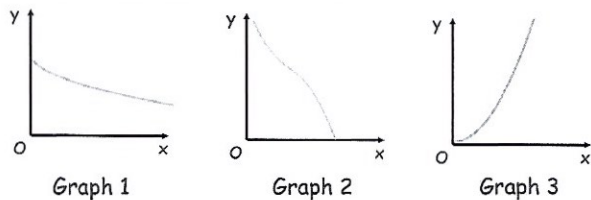


18th January



Corbettmaths



Graph 1

Graph 2

Graph 3

	Increasing function	Decreasing function
Graph 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Graph 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Graph 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A curve has gradient function

$$\frac{dy}{dx} = -3x^2 + 1$$

Work out the gradient of the curve when $x = -4$

$$-3 \times (-4)^2 + 1$$

$$-3 \times 16 + 1$$

$$-48 + 1 = -47$$

The 2 x 2 matrix I is the identity matrix.Write down the 2 x 2 matrix I

$$I = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$

Solve $8x^2+4x+3 = 16x^2+5x+6$

$$(2^3)^{x^2+4x+3} = (2^4)^{x^2+5x+6}$$

$$3x^2 + 12x + 9 = 4x^2 + 20x + 24$$

$$0 = x^2 + 8x + 15$$

$$0 = (x+3)(x+5)$$

$$x = -3 \text{ or } x = -5$$