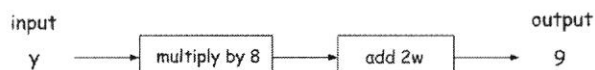


5th November



Corbettmaths

Here are two function machines, with the same input, y .



Work out the value of y

$$8y + 2w = 9$$

$$\frac{y}{3} - 2w = 2 \quad +$$

$$\frac{25y}{3} = 11$$

$$y = \frac{33}{25}$$

$$y = 4x^2 - 6x + 7$$

Find the value of $\frac{dy}{dx}$ when $x = 1$

$$\frac{dy}{dx} = 8x - 6$$

$$x = 1 \Rightarrow \frac{dy}{dx} = 2$$

Prove that the product of two consecutive even numbers is a multiple of 4.

$$2n, 2n + 2$$

$$2n(2n + 2) = 4n(n + 1) \\ = \underline{\text{multiple of 4}}$$

Solve the equation

$$4x^4 - 11x^2 + 6 = 0$$

$$\text{Let } t = x^2$$

$$4t^2 - 11t + 6 = 0$$

$$(t - 2)(4t - 3) = 0$$

$$x^2 = 2, \quad x^2 = \frac{3}{4}$$

$$x = \sqrt{2}, -\sqrt{2}, \frac{\sqrt{3}}{2}, -\frac{\sqrt{3}}{2}$$