

8th November

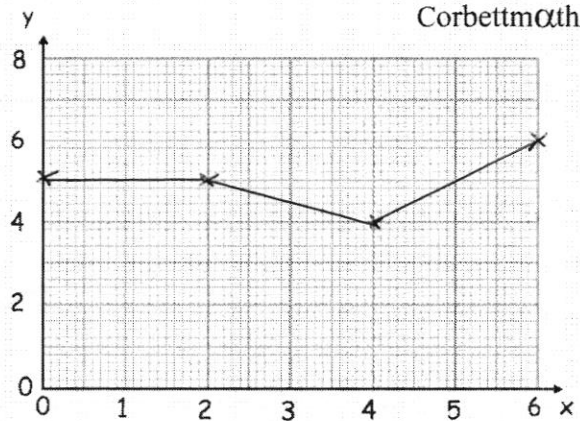
Corbettmaths

A function $f(x)$ is defined as

$$f(x) = 5 \quad 0 \leq x < 2$$

$$= 6 - \frac{1}{2}x \quad 2 \leq x < 4$$

$$= x \quad 4 \leq x \leq 6$$

Draw the graph of $y = f(x)$ Write $2x^2 + 8x + 2$ in the form $a(x + b)^2 + c$

$$\begin{aligned} &= 2[x^2 + 4x] + 2 \\ &= 2[(x+2)^2 - 4] + 2 \\ &= \underline{2(x+2)^2 - 6} \end{aligned}$$

Solve the simultaneous equations

$$2x + 3y + 5z = 21 \quad (1)$$

$$3x + 6y + 15z = 51 \quad (2)$$

$$5x + 4y + 10z = 37 \quad (3)$$

$$(2) - 3 \times (1) \quad -3x - 3y = -12$$

$$(3) - 2 \times (1) \quad x - 2y = -5$$

$$\underline{x + y = 4}$$

$$3y = 9 \Rightarrow y = 3$$

$$x = 1$$

$$2 + 9 + 5z = 21 \Rightarrow z = 2$$

$$\underline{x = 1, y = 3, z = 2}$$