

28th October

Corbettmaths

$$f(x) = 8 - x$$

$$g(x) = 4x - 1$$

Find $gfg(-1)$

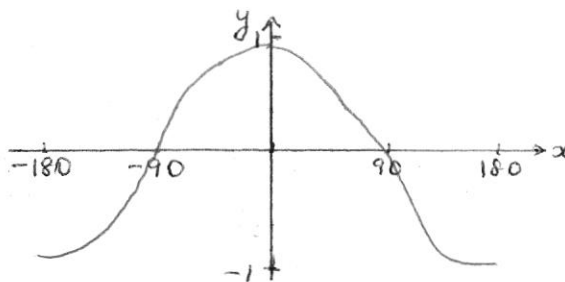
$$\begin{aligned} g(-1) &= -5 \\ f(-5) &= 13 \\ g(13) &= 51 \\ \underline{gfg(-1) = 51} \end{aligned}$$

Given that

$$(ax + 1)(x - 3)(x + b) \equiv 2x^3 - 3x^2 - 8x - 3$$

Find the values of a and b

$$\begin{aligned} ax^3 \dots - 3b &\equiv 2x^3 \dots - 3 \\ \underline{a = 2, b = 1} \end{aligned}$$

Sketch $y = \cos x$ with $-180^\circ \leq x \leq 180^\circ$ 

$$y = x^3 - 18x^2 + 81x$$

Find the coordinates of the stationary points.

$$\begin{aligned} \frac{dy}{dx} &= 3x^2 - 36x + 81 \\ \text{SPs} &\Rightarrow x^2 - 12x + 27 = 0 \\ &\quad (x - 3)(x - 9) = 0 \\ &\quad x = 3, x = 9 \\ &\Rightarrow \underline{(3, 108), (9, 0)} \end{aligned}$$