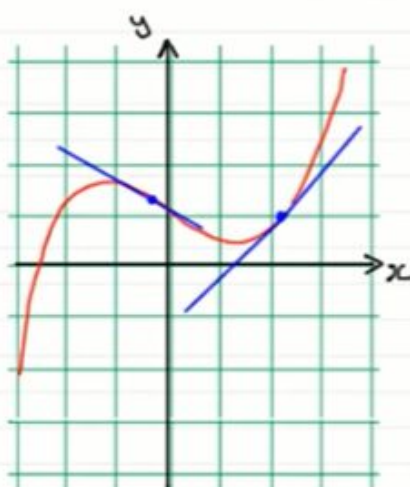




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Differentiation: The gradient function dy/dx | Calculus



$y = 2x^3 - 6x^2 + x + 1$

$y = ax^n \Rightarrow \frac{dy}{dx} = anx^{n-1}$
 $y = ax \Rightarrow \frac{dy}{dx} = a$, $y = a \Rightarrow \frac{dy}{dx} = 0$

$$\frac{dy}{dx} = 6x^2 - 12x + 1$$

when $x = 2$, $\frac{dy}{dx} = 6(2)^2 - 12(2) + 1$
 $= 1$

$$y = f(x), f(x) = 2x^3 - 6x^2 + x + 1$$
$$\therefore f'(x) = 6x^2 - 12x + 1$$
$$\therefore f'(2) = 1$$

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