

REFERENCIAS BIBLIOGRAFICAS




ALUMNA: DIANA CITLALI CRUZ RIOS

MAESTRO: ENRIQUE

ASIGNATURA: CALCULO

TEMA: DERIVADAS

4TO SEMESTRE, BACHILLERATO EN  
ENFERMERIA



# DERIVADAS

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$$\rightarrow f(x) = 5$$

$$f'(x) = 0$$

$$\rightarrow f(x) = -2x$$

$$f'(x) = -2$$

$$\rightarrow f(x) = -2x + 2$$

$$f'(x) = -2 + 0$$

$$f'(x) = -2$$

$$\rightarrow f(x) = -2x^2 - 5$$

$$f'(x) = -4x - 0$$

$$f'(x) = -4x$$

$$\rightarrow f(x) = 2x^4 + x^3 - x^2 + 4$$

$$f(2x^4) + f(x^3) - f(x^2) + f(4)$$

$$\frac{f(2x^4)}{x} + \frac{f(x^3)}{x} - \frac{f(x^2)}{x} + \frac{f(4)}{x}$$

$$(8x^3 + 3x^2 - 2x + 4)$$

$$\rightarrow f(x) = \frac{x^3 + 2}{3}$$

$$\frac{d}{dx} \left( \frac{x^3 + 2}{3} \right) = \frac{1}{3} \frac{d}{dx} (x^3 + 2)$$

$$\frac{d}{dx} (x^3) = 3x^{3-1} = 3x^2$$

$$\frac{d}{dx} (2) = 0$$

$$\frac{1}{3} \left( \frac{d}{dx} (x^3) + \frac{d}{dx} (2) \right) = \frac{1}{3} (3x^2 + 0) = \frac{1}{3} (3x^2) = x^2$$

$$\rightarrow f(x) = \frac{1}{3x^2}$$

$$\frac{1}{3} \cdot \frac{1}{x^2} = \frac{1}{3} x^{-2} \rightarrow f'(x) = \frac{1}{3} (-2) \cdot x^{-2-1} = \frac{-2}{3} x^{-3}$$

$$\rightarrow f(x) = \frac{x+1}{x-1}$$

$$f(x) = \frac{(x+1)(1) - (x-1)(1)}{(x-1)^2}$$

$$f'(x) = \frac{(x-1) - (x+1)}{(x-1)^2}$$

$$f'(x) = \frac{x-1 - x-1}{(x-1)^2}$$

$$f'(x) = \frac{-1-1}{(x-1)^2}$$

$$\frac{f'(x) - 2}{(x-1)^2}$$

$$\rightarrow f(x) = (5x^2 - 3) \cdot (x^2 + x + 4)$$

$$f(x) = (5x^2 - 3)(2x + 1) + (x^2 + x + 4)(10x)$$

$$f(x) = (10x^3 + 5x^2 - 6x - 3) + (10x^3 + 10x^2 + 40x)$$

$$f'(x) = 10x^3 + 5x^2 - 6x - 3 + 10x^3 + 10x^2 + 40x$$

$$f'(x) = 20x^3 + 15x^2 + 34x - 3$$

$$\rightarrow f(x) = \frac{5}{x^5}$$

$$\frac{d}{dx} \left( \frac{5}{x^5} \right) = \frac{d}{dx} (5x^{-5}) = -25x^{-5-1} = -25x^{-6} = \frac{-25}{x^6}$$

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$$\rightarrow f(x) = (x^2 + 3x - 2)^4$$

$$f'(x) = 4 \cdot (x^2 + 3x - 2)^{4-1} \cdot (x^2 + 3x - 2)'$$

$$f'(x) = 4(x^2 + 3x - 2)^3 \cdot ((x^2)' + (3x)' - (2)')$$

$$f'(x) = 4(x^2 + 3x - 2)^3 \cdot 2x + 3(x)' - 0$$

$$f'(x) = 4(x^2 + 3x - 2)^3 (2x + 3)$$

$$f'(x) = 4(x^2 + 3x - 2)^3 \Rightarrow f'(x) = 8(x+3)(x^2 + 3x - 2)^3$$

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$$\rightarrow f(x) = \sqrt{x^2 - 2x + 3}$$

$$f'(x) = \frac{2x - 2}{2\sqrt{x^2 - 2x + 3}^{2-1}}$$

$$f'(x) = \frac{2(x-1)}{2\sqrt{x^2 - 2x + 3}}$$

$$f' = \frac{x-1}{\sqrt{x^2 - 2x + 3}}$$

$$\rightarrow f(x) = \sqrt[4]{x^5 - x^3 - 2}$$

$$f'(x) = \frac{5x^4 - 3x^2}{4\sqrt[4]{(x^5 - x^3 - 2)^{4-1}}}$$

$$f' = \frac{x^2(5x^2 - 3)}{4\sqrt[4]{(x^5 - x^3 - 2)^3}}$$

$$\rightarrow f(x) = \sqrt{x}$$

$$f(x) = x^{\frac{1}{2}}$$

$$f'(x) = \frac{1}{2} \cdot x^{\frac{1}{2} - \frac{2}{2}}$$

$$f' = \frac{1}{2} \cdot x^{-1/2} = \frac{1}{2} \left[ \frac{1}{x^{1/2}} \right] = \frac{1}{2x^{1/2}}$$

$$= f' = \frac{1}{2\sqrt{x}}$$

$$\rightarrow f(x) = \frac{1}{\sqrt{x}} = \frac{1}{x^{1/2}} = x^{-1/2}$$

$$f'(x) = -\frac{1}{2} x^{-1/2 - 1}$$

$$f'(x) = -\frac{1}{2} x^{-3/2} \rightarrow f'(x) = \frac{1}{2x^{3/2}} \rightarrow f'(x) = \frac{1}{2\sqrt{x^3}}$$

$$\rightarrow f(x) = \frac{1}{x \cdot \sqrt{x}}$$

$$= \frac{1}{x \cdot x^{1/2}} = \frac{1}{x^{3/2}} = x^{-3/2}$$

$$f'(x) = -\frac{3}{2} x^{-3/2 - 1}$$

$$f'(x) = -\frac{3}{2} x^{-5/2}$$

$$f'(x) = -\frac{3}{2x^{5/2}}$$

$$f'(x) = -\frac{3}{2\sqrt{x^5}}$$

$$f'(x) = -\frac{3}{2\sqrt{x^5}}$$

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