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Grupo: A

PASIÓN POR EDUCAR

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$$f(x) = 5$$

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

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

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

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

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

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

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

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

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

$$f(x) = \frac{5}{x^5} + \frac{3}{x^2}$$

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

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

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

$$f(x) = \sqrt[3]{x^2} + \sqrt{x}$$

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

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

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

Calcolo

$$1 - F(x) = 5 \quad \frac{d5}{dx} = 0$$

$$2 - F(x) = -2x \quad \frac{d-2x}{dx} = -2$$

$$3 - F(x) = -2x + 2$$

$$\frac{d-2x}{dx} = \frac{d2}{dx} = 0$$

$$= -2$$

$$4 - 2x^4 + x^3 - x^2 + 1$$

$$\frac{d}{dx} \frac{d2x^4}{dx} + \frac{d}{dx} x^3 + \frac{d}{dx} x^2 + 0$$

$$8x^3 + x^2 - x + 0 = 8x^3$$

$$5 - F(x) = \frac{x^3 + 2}{3}$$

$$\frac{d}{dx} \frac{x^3}{3} = x^2$$

$$\frac{d}{dx} \frac{x^3}{3} + \frac{d2}{dx} = 0$$

$$6. f(x) = \frac{x+1}{x-2} = \frac{dx=1}{dx} \frac{dx=1}{dx} = 1 \cdot 1$$

$$\frac{1}{1} = 0$$

$$7. f(x) = \frac{1}{3x^2} = \frac{1 \cdot 3x^{2-1}}{dx} = \frac{3x^{-1}}{dx} = \frac{3}{x}$$

$$6x^{-3} = \frac{6}{x^3}$$

$$8. f(x) = (5x^2 - 3) \cdot (x^2 + x + 1)$$

$$\frac{d5x^2}{dx} - \frac{3}{dx} = 0 \cdot \frac{dx^2}{dx} + \frac{dx}{dx} + \frac{1}{dx}$$

$$10x - 0$$

$$10x + 2x$$

$$\underline{12x^2}$$

$$9. f(x) = \frac{5}{x^5} + \frac{3}{x^2} = \frac{d5x^{-5}}{dx} + \frac{3x^{-2}}{dx}$$

$$25x^{-6} + 6x^{-3} = 31x^{-9} = \frac{31}{x^9}$$



10. $f(x) = \sqrt{x} = x^{1/2}$ $\Delta = x^b = x^1$

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

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

$$\frac{1}{2\sqrt{x}}$$

11. $f(x) = \frac{5}{x^5} = 5x^{-5}$

$$\frac{5x^{-5-1}}{dx} = 25x^{-6} = \frac{25}{x^6}$$

12. $f(x) = \sqrt{1-x} = (1-x)^{1/2}$

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

$$\frac{1}{2}(1-x)^{-1/2} \cdot (-1)$$

$$-\frac{1}{2\sqrt{1-x}}$$

13. $\sqrt[3]{x^2} + \sqrt{x}$

$$(x)^{2/3-1} + (x)^{1/2-1}$$

$$\frac{2}{3}(x)^{-1/3} + \frac{1}{2}(x)^{-1/2}$$

$$\frac{2}{3x^{1/3}} + \frac{1}{2\sqrt{x}}$$

$$14. - F(x) = (x^2 + 3 - 2)^{-1}$$

$$\frac{d}{dx} x^2 + \frac{d}{dx} 12x - 8 = 0$$

$$8x + 12 = 20x$$

$$15. f(x) = \sqrt{x^2 - 2x + 3}$$

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

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

$$\frac{1}{2(x^2 - 2x + 3)^{1/2}} \quad \frac{2x - 2}{x}$$

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

Puede consultar estos videos

https://www.youtube.com/watch?v=m_5-WS9Nd68

<https://www.youtube.com/watch?v=uKtq7gW3vr8>

fórmulas para resolver los ejercicios

⊗ $\frac{d}{dx} c = 0$

2. $\frac{d}{dx} x = 1$

3. $\frac{d}{dx} (u + v - w) = \frac{d}{dx} u + \frac{d}{dx} v - \frac{d}{dx} w$

4. $\frac{d}{dx} cv = c \frac{d}{dx} v$

5. $\frac{d}{dx} v^n = nv^{n-1} \frac{d}{dx} v$

6. $\frac{d}{dx} x^n = nx^{n-1}$

7. $\frac{d}{dx} \sqrt[n]{v} = \frac{1}{n \sqrt[n]{v^{n-1}}} \frac{d}{dx} v$

8. $\frac{d}{dx} \sqrt{v} = \frac{1}{2\sqrt{v}} \frac{d}{dx} v$

9. $\frac{d}{dx} (uv) = u \frac{d}{dx} v + v \frac{d}{dx} u$

10. $\frac{d}{dx} \left(\frac{u}{v} \right) = \frac{v \frac{d}{dx} u - u \frac{d}{dx} v}{v^2}$

11. $\frac{d}{dx} \left(\frac{c}{v} \right) = -\frac{c}{v^2} \frac{d}{dx} v$

12. $\frac{d}{dx} \left(\frac{v}{c} \right) = \frac{1}{c} \frac{d}{dx} v$

13. $\frac{d}{dx} = \frac{dy}{dv} \frac{dv}{dx}$ *y es función de v*