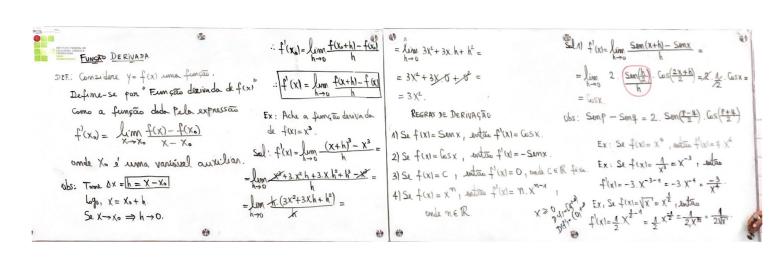


sol: $f: \mathbb{R} \longrightarrow \mathbb{R}$ $x \longmapsto y = f(x)$ De modo geral, temos: Dada a função f(x)=x3. +1 (a) = $\lim_{x \to a} \frac{x - a^3}{x - a} =$ todomos criar uma outra omde f(x1 = X3. $= \lim_{x \to a} \frac{(x - \alpha) \cdot (x^2 + x \cdot \alpha + \alpha^2)}{x} = \frac{dy}{dx} = \frac{dx}{dx} = f^1 : \mathbb{R} \longrightarrow \mathbb{R}$ $x \longmapsto y = f^1(x)$ a) $f'(2) = \lim_{x \to 2} \frac{f(x) - f(2)}{x - 2} =$ $= \lim_{x \to a} x^2 + x \cdot a + a^2 =$ ande f'(x1 = 3.x2 $= 0^2 + 0^2 + 0^2 = 3.0^2$ $= \lim_{X \to 2} X^2 + x \cdot 2 + 2^2$ Chamada de "Função Disindo b) f1(10) = 3. 10° = 300 $= 2^{2} + 2^{2} + 2^{2} = 3.2^{2} = 3.4 = 12$ le fixi". c) f'(-1)= 3.(-1)2=3 d) f'(-17)=3.(-17)2=3.7=21.



5) Se f(x)= ax, entro f'(x)= ax. lma omde 0 < a = 1. Ex: Se $f(x)=3^{x}$, entar $f'(x)=3^{x}$. In 3. Ex.: Se $f(x) = e^x$, entar $f'(x) = e^x$. In $e = e^x$ 6) Se $f(x) = \log x$, então $f'(x) = \frac{1}{x \cdot \ln a}$ onde 0<0. #1. Ex: Se $f(x) = log_x$, entor $f'(x) = \frac{\Lambda}{x \cdot lm}$

#1 Se f(x) = g(x) + l(x). (x) \(+ \(\chi \) = \(\frac{1}{2} \) = \(\frac{1}{2} \) 8) Se f(x) = g(x) - L(x). 1x) \(- 1x) \(\rightarrow = 9 \chi x) - 2 (x) + attack 9) Se f(x) = c. L(x), water f'(x)=c. L'(x) 10) Se f(x) = g(x). L(x), + (x) = g(x). (x)+ + g(x). L'(x). Ex: Se $f(x) = \ln x = \log x$, entar $f'(x) = \frac{1}{x \cdot \ln x} = \frac{1}{x}$.

Ex: Se $f(x) = 4.X^4 + 5.X^3 - 4.X^2 + 9x - 11$, So $f'(x) = 4.4X^3 + 5.3X^2 - 4.2X^1 + 9.1 - 0 = 28.X^3 + 15.X^2 - 8X + 9$.

Ex: Se $f(x) = X^6$. Sen X, entare $f'(x) = 6.X^5$. Sen $X + X^6$. Cos $X = X^5$. (6. Sen X + X. Cos X).