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Parcial Costo Semana 9

1. $f(x) = \log_3 (x^2 - 70)$

$f'(x) \dfrac{1}{(x^2-70) \times \ln 3} \bullet 2x$

$f'(x) = \dfrac{2x}{(x^2-70) \times 1.10}$

$$\boxed{f(x) = \dfrac{2x}{10.99 + 1.10 x^2}}$$

2. $f(x) = \ln (\sqrt{x})$

$f'(x) = \dfrac{1}{\ln (\sqrt{x})^{1/2}} = \dfrac{1}{2} \dfrac{\ast 1}{\sqrt{x}} \dfrac{1}{x}$

$$\boxed{f(x) = \dfrac{1}{2x\sqrt{x}}}$$

3. $f(x) = \dfrac{(x+1)^4 (x-1)^3}{(sen \, x)^5}$

$f(x) = \ln [(x+1)^4 (x-1)^3] - \ln [(sen \, x)^5]$

$f(x) = \ln (x+1)^4 (x-1)^3 - \ln (sen \, x)^5$

$f(x) = 4 \cdot \ln (x+1) \; 3 \cdot \ln (x-1) - 5 \cdot \ln (sen \, x)$

$f(x) = 4 \dfrac{x}{x+1} + 3 \dfrac{x}{x-1} - 5 \dfrac{\cos x}{sen \, x}$

$f(x) = \dfrac{4x}{x+1} + \dfrac{3x}{x-1} - \dfrac{5 \cos x}{sen \, x}$

$f'(x) = \left[\dfrac{(x+1)^4 (x-1)^3}{(sen \, x)^5} * \left(\dfrac{4x}{x+1} + \dfrac{3x}{x-1} - \dfrac{5 \cos x}{sen \, x} \right) \right]$