

# EXERCÍCIO 6



6) Calcule a derivada da função

$$f(x) = \frac{6x^2 + x - 1}{x + 5}$$

$$\left(\frac{f}{g}\right)' = \frac{f' \cdot g - f \cdot g'}{g^2}$$

$$f'(x) = \frac{(6x^2 + x - 1)' \cdot (x + 5) - (6x^2 + x - 1) \cdot (x + 5)'}{(x + 5)^2} =$$

$$= \frac{(12x + 1) \cdot (x + 5) - (6x^2 + x - 1) \cdot (1)}{(x + 5)^2} =$$

$$= \frac{12x^2 + 60x + \cancel{x} + 5 - 6x^2 - \cancel{x} + 1}{(x + 5)^2} = \frac{6x^2 + 60x + 6}{(x + 5)^2}$$

$$= \frac{6(x^2 + 10x + 1)}{(x + 5)^2} \rightarrow x^2 \oplus 10x \oplus 25$$