

EXERCÍCIO 5

Regra da Cadeia



5) Calcule a primeira derivada da função $y = \ln[\text{sen}(x^3 - 1)]$.

$$(\ln x)' = \frac{1}{x}$$

$$(\text{sen } x)' = \cos x$$

$$(\ln \square)' = \frac{1}{\square} \cdot \square'$$

$$(\text{sen } \square)' = \cos \square \cdot \square'$$

$$y' = \frac{1}{\text{sen}(x^3 - 1)} \cdot (\text{sen}(x^3 - 1))' = \frac{1}{\text{sen}(x^3 - 1)} \cdot \cos(x^3 - 1) \cdot (x^3 - 1)' =$$

$$= \frac{1}{\text{sen}(x^3 - 1)} \cdot \cos(x^3 - 1) \cdot 3x^2 =$$

$$\frac{3x^2 \cos(x^3 - 1)}{\text{sen}(x^3 - 1)}$$