Derivada e a regra da cadeia (revisão)

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ATP-303 - Redes Neurais e Algoritmos Genéticos

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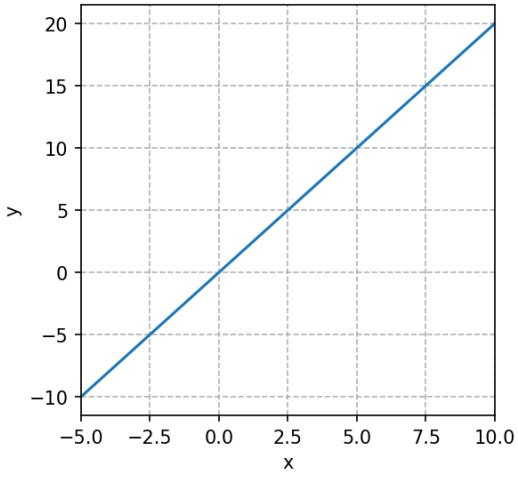
Quanto que $f(x)$ varia quando variamos x?



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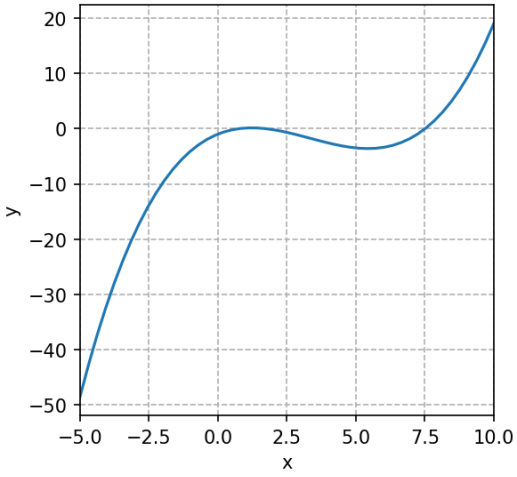

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A definição de derivada

$$\frac{\mathrm{d}f(x)}{\mathrm{d}x} = \lim_{\Delta x \to 0} \frac{f(x + \Delta x) - f(x)}{\Delta x}$$

$$\frac{\partial f(x, y)}{\partial x} = \lim_{\Delta x \to 0} \frac{f(x + \Delta x, y) - f(x, y)}{\Delta x}$$

A regra da cadeia

$$f(x, a, b) = ax + b$$

$$p(x, a) = ax$$

$$f(p(x, a), b) = p(x, a) + b$$

$$\frac{\partial f}{\partial x} = \frac{\partial f}{\partial p} \cdot \frac{\partial p}{\partial x}$$

A regra da cadeia

$$f(x, g(y)) = x \cdot g(y)$$

$$\frac{\partial f}{\partial y} = \frac{\partial f}{\partial g} \cdot \frac{\partial g}{\partial y}$$