

## DERIVATE DI FUNZIONI ELEMENTARI

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$$Dk = 0$$

$$Dx^n = n \cdot x^{n-1}$$

$$Da^x = a^x \ln a$$

$$De^x = e^x$$

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

$$D\cos(x) = -\text{sen}(x)$$

$$D\text{tg}(x) = \frac{1}{\cos^2 x} = 1 + \text{tg}^2 x$$

$$Dx = 1$$

$$D\sqrt[n]{x} = \frac{1}{n\sqrt[n]{x^{n-1}}}$$

$$D\log_a x = \frac{1}{x \ln a}$$

$$D\ln x = \frac{1}{x}$$

$$D\arcsen(x) = \frac{1}{\sqrt{1-x^2}}$$

$$D\arccos(x) = -\frac{1}{\sqrt{1-x^2}}$$

$$D\text{arctg}(x) = \frac{1}{1+x^2}$$

## REGOLE DI DERIVAZIONE

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$$D[f(x) \pm g(x)] = Df(x) \pm Dg(x)$$

$$D[f(x) \cdot g(x)] = Df(x) \cdot g(x) + Dg(x) \cdot f(x)$$

$$D\frac{f(x)}{g(x)} = \frac{Df(x) \cdot g(x) - Dg(x) \cdot f(x)}{[g(x)]^2}$$

$$Dg(f(x)) = Dg(f(x)) \cdot Df(x)$$

$$Df(x)^{g(x)} = e^{\ln f(x)^{g(x)}} = e^{g(x) \ln f(x)}$$