DERIVATE FONDAMENTALI

$$f(x) \rightsquigarrow f'(x)$$

$$k \rightsquigarrow 0$$

$$x^k \rightsquigarrow kx^{k-1}$$

$$\sin(x) \rightsquigarrow \cos(x)$$

$$\cos(x) \rightsquigarrow -\sin(x)$$

$$\tan(x) \rightsquigarrow 1 + \tan^2(x) = \frac{1}{\cos^2(x)}$$

$$\arcsin(x) \rightsquigarrow \frac{1}{\sqrt{1-x^2}}$$

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

$$\arctan(x) \rightsquigarrow \frac{1}{1+x^2}$$

$$e^x \rightsquigarrow e^x$$

$$k^x \rightsquigarrow \ln(k) \cdot k^x$$

$$\ln(x) \rightsquigarrow \frac{1}{x}$$

$$\log_k(x) \rightsquigarrow \frac{1}{\ln(k) \cdot x}$$

$$\sinh(x) \rightsquigarrow \cosh(x)$$

$$\cosh(x) \rightsquigarrow \sinh(x)$$

Regole di derivazione

Linearità.

$$(af(x) + bg(x))' = af'(x) + bg'(x)$$

Prodotto.

$$(fg)' = f'g + fg'$$

Rapporto.

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

Funzione composta.

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