

Tavola delle derivate delle funzioni elementari

appunti di Claudio Rosanova

Funzione	Derivata
$y = k$	$y' = 0$
$y = x$	$y' = 1$
$y = x^n$	$y' = nx^{n-1}$
$y = mx^n$	$y' = mnx^{n-1}$
$y = \frac{1}{x}$	$y' = -\frac{1}{x^2}$
$y = \frac{1}{x^n}$	$y' = -\frac{n}{x^{n+1}}$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$
$y = \sqrt[n]{x}$	$y' = \frac{1}{n\sqrt[n]{x^{n-1}}}$
$y = \sqrt[n]{x^m}$	$y' = \frac{m}{n\sqrt[n]{x^{n-m}}}$
$y = \log_e x$	$y' = \frac{1}{x}$
$y = \log_a x$	$y' = \frac{1}{x} \log_a e$
$y = e^x$	$y' = e^x$
$y = a^x$	$y' = a^x \log_e a$
$y = \operatorname{sen} x$	$y' = \cos x$
$y = \cos x$	$y' = -\operatorname{sen} x$
$y = \operatorname{tg} x$	$y' = \frac{1}{\cos^2 x} = 1 + \operatorname{tg}^2 x$
$y = \operatorname{cot} g x$	$y' = -\frac{1}{\operatorname{sen}^2 x} = -(1 + \operatorname{cot} g^2 x)$
$y = \sec x$	$y' = \frac{\operatorname{sen} x}{\cos^2 x}$

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Funzione	Derivata
$y = \cos ecx$	$y' = -\frac{\cos x}{\sin^2 x}$
$y = \arcsen x$	$y = \frac{1}{\sqrt{1-x^2}}$
$y = \arccos x$	$y' = -\frac{1}{\sqrt{1-x^2}}$
$y = \arctgx$	$y' = \frac{1}{1+x^2}$
$y = \text{arc cot } gx$	$y' = -\frac{1}{1+x^2}$
$y = \arccos ecx$	$y' = -\frac{1}{ x \sqrt{x^2-1}}$
$y = \text{arc sec } x$	$y' = \frac{1}{ x \sqrt{x^2-1}}$
Funzioni iperboliche	
$y = Shx$	$y' = Chx$
$y = Chx$	$y' = Shx$
$y = Tghx$	$y' = \frac{1}{Ch^2 x} = 1 - Tgh^2 x$
$y = Ctghx$	$y' = 1 - Ctgh^2 x$
$y = Co\sec hx$	$y' = -Ctghx \cdot Co\sec hx$
$y = Sechx$	$y' = -Tghx \cdot Sechx$
$y = \text{arcShx}$	$y' = \frac{1}{\sqrt{x^2+1}}$
$y = \text{arcChx}$	$y' = \frac{1}{\sqrt{x^2-1}}$
$y = \text{arcTghx}$	$y' = \frac{1}{1-x^2}$
$y = \text{arcCtghx}$	$y' = \frac{1}{1-x^2}$
$y = \text{arcCo\sec hx}$	$y' = -\frac{1}{ x \sqrt{1+x^2}}$
$y = \text{arcSechx}$	$y' = -\frac{1}{ x \sqrt{1-x^2}}$