

# DERIVATE

## ELEMENTARI

$y = k$	$y' = 0$
$y = x$	$y' = 1$
$y = x^\alpha$	$y' = \alpha x^{\alpha-1}$
$y = \sin x$	$y' = \cos x$
$y = \cos x$	$y' = -\sin x$
$y = e^x$	$y' = e^x$
$y = a^x$	$y' = a^x \ln a$
$y = \ln x$	$y' = \frac{1}{x}$
$y = \log_a x$	$y' = \frac{1}{x} \log_a e$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$

## FUNZIONI COMPOSITE

$y = f(x)$	$y' = \alpha f(x)^{\alpha-1} f'(x)$
$y = \sin f(x)$	$y' = \cos f(x) f'(x)$
$y = \cos f(x)$	$y' = -\sin f(x) f'(x)$
$y = e^{f(x)}$	$y' = e^{f(x)} f'(x)$
$y = a^{f(x)}$	$y' = a^{f(x)} \ln a f'(x)$
$y = \ln f(x)$	$y' = \frac{f'(x)}{f(x)}$
$y = \log_a f(x)$	$y' = \frac{f'(x)}{f(x)} \log_a e$
$y = \sqrt{f(x)}$	$y' = \frac{f'(x)}{2\sqrt{f(x)}}$