

| Funzione               | Derivata                                   | Funzione                                   | Derivata   |
|------------------------|--|--|--|
| $x^n$                  | $nx^{n-1}$                                 | $\sqrt[n]{x}$                              | $\frac{1}{n\sqrt[n]{x^{n-1}}}$                         |
| GONIOMETRICHE          |  |  |  |
| $\sin x$               | $\cos x$                                   | $\arcsin x$                                | $\frac{1}{\sqrt{1-x^2}}$                               |
| $\cos x$               | $-\sin x$                                  | $\arccos x$                                | $-\frac{1}{\sqrt{1-x^2}}$                              |
| $\tan x$               | $\frac{1}{\cos^2 x}$                       | $\arctan x$                                | $\frac{1}{1+x^2}$                                      |
| LOGARITMO-ESPONENTIALI |  |  |  |
| $\log_a x$             | $\frac{1}{x} \log_a e = \frac{1}{x \ln a}$ | $a^x$                                      | $a^x \ln a$  |
| $\ln x$                | $\frac{1}{x}$                              | $e^x$                                      | $e^x$  |
| FUNZIONI IPERBOLICHE   |  |  |  |
| $\sinh x$              | $\cosh x$                                  | $\tanh x$                                  | $\frac{1}{\cosh^2 x}$                                  |
| $\cosh x$              | $\sinh x$                                  | $\coth x$                                  | $-\frac{1}{\sinh^2 x}$                                 |
| FUNZIONE COMPOSTA      |  |  |  |
| $f\{g[h(x)]\}$         |  | $f'\{g[h(x)]\} \cdot g'[h(x)] \cdot h'(x)$ |  |
| $[f(x)]^n$             | $n[f(x)]^{n-1} \cdot f'(x)$                | $\sqrt[n]{f(x)}$                           | $\frac{f'(x)}{\sqrt[n]{[f(x)]^{n-1}}}$                 |
| $\sin[f(x)]$           | $\{\cos[f(x)]\} \cdot f'(x)$               | $\arcsin[f(x)]$                            | $\frac{f'(x)}{\sqrt{1-[f(x)]^2}}$                      |
| $\cos[f(x)]$           | $-\{\sin[f(x)]\} \cdot f'(x)$              | $\arccos[f(x)]$                            | $-\frac{f'(x)}{\sqrt{1-[f(x)]^2}}$                     |
| $\tan[f(x)]$           | $\frac{1}{\cos^2[f(x)]} \cdot f'(x)$       | $\arctan[f(x)]$                            | $\frac{f'(x)}{1+[f(x)]^2}$                             |
| $\log_a[f(x)]$         | $\frac{f'(x)}{f(x)} \log_a e$              | $a^{f(x)}$                                 | $a^{f(x)} \cdot f'(x) \ln a$                           |
| $\ln[f(x)]$            | $\frac{f'(x)}{f(x)}$                       | $e^{f(x)}$                                 | $e^{f(x)} \cdot f'(x)$                                 |
| REGOLE DI DERIVAZIONE  |  |  |  |
| $k \cdot f(x)$         | $k \cdot f'(x)$                            | $f(x) + g(x)$                              | $f'(x) + g'(x)$  |
|                        | $f(x) \cdot g(x)$                          |  | $f'(x) \cdot g(x) + f(x) \cdot g'(x)$                  |
|                        | $\frac{f(x)}{g(x)}$                        |  | $\frac{f'(x) \cdot g(x) - f(x) \cdot g'(x)}{[g(x)]^2}$ |