

Übersicht Ableitungen

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 Version: 0.1

| $f(x)$ | $f'(x)$ | Bemerkungen |
|----------------------------|-----------------------------|---|
| const | 0 | |
| x^r | rx^{r-1} | $r \in \mathbb{R}$ |
| $\sqrt[n]{x}$ | $\frac{1}{n \sqrt[n-1]{x}}$ | $x > 0$ |
| e^x | e^x | |
| r^x | $r^x \ln r$ | $0 < r \in \mathbb{R}$ |
| $\ln x $ | $\frac{1}{x}$ | $x \neq 0$ |
| ${}_b \log x $ | $\frac{1}{x \ln b}$ | $x \neq 0, 0 < b \in \mathbb{R}, b \neq 1$ |
| $\sin x$ | $\cos x$ | |
| $\cos x$ | $-\sin x$ | |
| $\tan x$ | $\frac{1}{\cos^2 x}$ | $x \neq (z + 2^{-1})\pi, z \in \mathbb{Z}$ |
| $\cot x$ | $-\frac{1}{\sin^2 x}$ | $x \neq z\pi, z \in \mathbb{Z}$ |
| $\arcsin x$ | $\frac{1}{\sqrt{1-x^2}}$ | $-\frac{\pi}{2} < \arcsin x < \frac{\pi}{2}, x < 1$ |
| $\arccos x$ | $-\frac{1}{\sqrt{1-x^2}}$ | $-\frac{\pi}{2} < \arccos x < \frac{\pi}{2}, x < 1$ |
| $\arctan x$ | $\frac{1}{1+x^2}$ | $-\frac{\pi}{2} < \arctan x < \frac{\pi}{2}$ |
| $\operatorname{arccot} x$ | $-\frac{1}{1+x^2}$ | $0 < \operatorname{arccot} x < \pi$ |
| $\sinh x$ | $\cosh x$ | |
| $\cosh x$ | $-\sinh x$ | |
| $\tanh x$ | $\frac{1}{\cosh^2 x}$ | |
| $\operatorname{coth} x$ | $-\frac{1}{\sinh^2 x}$ | $x \neq 0$ |
| $\operatorname{arsinh} x$ | $\frac{1}{\sqrt{x^2+1}}$ | |
| $\operatorname{arcosh} x$ | $\frac{1}{\sqrt{x^2-1}}$ | $0 < \operatorname{arcosh} x, x > 1$ |
| $\operatorname{arctanh} x$ | $\frac{1}{1-x^2}$ | $ x < 1$ |
| $\operatorname{arcoth} x$ | $-\frac{1}{x^2-1}$ | $ x > 1$ |

Liste der Versionen

| Version | Datum | Bearbeiter | Bemerkung |
|---------|------------|------------|--------------------|
| 0.1 | 07.06.2006 | Bri | Dokumenterstellung |