Def Abl

$$2\,x^2+1\colon\quad \frac{x^n-a^n}{x-a} \underset{\text{Ind}}{=} \sum_m^n x^m\,a^{n-m-1}\colon\quad x^n \text{ diff/Abl at } a$$

$$x\overline{x} \text{ diff in } 0\colon\quad \overline{x} \text{ nicht diff in } 0\colon\quad \text{diff/Abl in } a\neq 0$$

DefBer/diff/Abl

$$\frac{ax+b}{cx+d}\colon\quad ad-bc\neq 0\colon\quad \sqrt{1+\sqrt{1+x^2}}\colon\quad \sqrt{\frac{1+x}{1-x}}\colon\quad \frac{e^{-x^2}}{1+\sqrt{1+x^4}}$$

$$\sqrt{x}+x^2-1\colon\quad x^{7/3}-x^{-3/2}\colon\quad (x+2)^2$$

$$e^{\sin\log x}-\frac{\sqrt{x^2+1}}{x^6+3}+7\colon\quad x^x\colon\quad \exp\left(\frac{(2x+1)\,x^3}{x^2+2}\right)$$

$$\mathbb{R}_{>}\,|\log x\colon\quad \mathbb{R}|\,a^x\colon\quad \mathbb{R}_{>}\,|\,x^a\colon\quad a\in\mathbb{R}$$

stw def

$$p\in\mathbb{Z}\begin{cases} x^p\cos\dfrac{1}{x} & x\neq 0\\ 0 & x=0\end{cases}\ \text{stet/diff/+diff?}$$

$$\begin{cases} x^2+x & x\geqslant 0\\ \sin x & x<0\end{cases}\ +\text{diff on } \mathbb{R}\colon\quad \text{Abl}$$

$${}^x\curlywedge=\begin{cases} x^2\sin\dfrac{1}{x} & x\neq 0\\ 0 & x=0\end{cases}\ \text{diff/Abl/not +diff/?ex}\ \begin{cases}\lim\limits_0{}^x\curlywedge\\ \lim\limits_0{}^x\bar{\curlywedge}\end{cases}$$

$${}^{x+y}\cosh={}^x\cosh\,{}^y\cosh+{}^x\sinh\,{}^y\sinh$$

$$y=e^{x^2}\log\sqrt{x}\Longrightarrow \text{ tangent line durch } P=(1{:}0)$$