Elementare Funktionen

HW

Trigonometrische Funktionen

$$\sin(x \pm y) = \sin(x) * \cos(y) \pm \cos(x) * \sin(y)$$

$$\cos(x \pm y) = \cos(x) * \cos(y) \mp \sin(x) * \sin(y)$$

$$\sin^2(x) + \cos^2(x) = 1$$

$$\sin^2(x) - \cos^2(x) = 1 - 2\ \cos^2(x)$$

$$\sin(2x) = 2 * \sin(x) * \cos(x)$$

$$\cos(2x) = \cos^2(x) - \sin^2(x)$$

Hyperbelfunktionen

$$\cosh(x) = \frac{e^x + e^{-x}}{2}$$

$$\sinh(x) = \frac{e^x - e^{-x}}{2}$$

$$\sinh(x \pm y) = \sinh(x) * \cosh(y) \pm \cosh(x) * \sinh(y)$$

$$\cosh(x \pm y) = \cosh(x) * \cosh(y) \pm \sinh(x) * \sinh(y)$$

$$\cosh^2(x) - \sinh^2(x) = 1$$

$$\cosh^2(x) + \sinh^2(x) = \cosh(2x)$$

$$e^{\pm x} = \cosh(x) \pm \sinh(x)$$

Log & Exp & Pot

$$x^a = e^{a*\ln(x)}$$

$$a^x = e^{x*\ln(a)}$$

$$x = a^y \Leftrightarrow y = \log_a(x)$$

$$\log_a(x) = \frac{\ln(x)}{\ln(a)}$$