

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

$$\tan x = \frac{\sin x}{\cos x}$$

$$\tan^2 x + 1 = \frac{1}{\cos^2 x}$$

$$\sin 2x = 2 \sin x \cos x$$

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

$$= 1 - 2 \cos^2 x$$

$$= 2 \sin^2 x - 1$$

$$\sin^2 x = \frac{1 - \cos 2x}{2}$$

$$\cos^2 x = \frac{1 + \cos 2x}{2}$$

$$\sin^{-1} x = \arcsin x$$

$$\cos^{-1} x = \arccos x$$

$$\tan^{-1} x = \arctan x$$

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

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

$$\tanh x = \frac{e^x - e^{-x}}{e^x + e^{-x}}$$

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

$$x = \sinh t$$

$$e^t - e^{-t} - 2x = 0$$

$$e^{2t} - 2e^t x - 1 = 0$$

$$e^t = x + \sqrt{1 + x^2} \quad (\because e^t > 0)$$

$$t = \log \left(x + \sqrt{1 + x^2} \right)$$

$$x = \cosh t$$

$$e^t + e^{-t} - 2x = 0$$

$$e^{2t} + 2e^t x - 1 = 0$$

$$e^t = -x \pm \sqrt{1 + x^2}$$

$$t = \log \left(-x \pm \sqrt{1 + x^2} \right)$$

$$y = a$$

$$y = x^r$$

$$y = \sqrt{x}$$

$$y = \frac{1}{x}$$

$$y = \sin x$$

$$y = \cos x$$

$$y = \tan x$$

$$y = e^x$$

$$y = \log x$$

$$y = a^x$$

$$y = f(g(x))$$

$$y = f(x)g(x)$$

$$y = \frac{f(x)}{g(x)}$$

$$y = x^x$$

$$y = \int_0^x f(t) \, dt$$

$$x^2 + y^2 = 1$$

$$x = f(y)$$

$$\begin{cases} x = f(t) \\ y = g(t) \end{cases}$$