

funct $f$	graph (with 1-1 restriction)	identities	$f' \int f$	inverse $f_{-1}$	graph $f_{-1}$	$f_{-1}'$
$\sin(x)$ $= \frac{e^{ix} - e^{-ix}}{2i}$ <i>odd, <math>T=2\pi</math></i>		$\sin(x+y) = \sin(x)\cos(y) + \cos(x)\sin(y)$ $\sin(2x) = 2\sin(x)\cos(x)$ $\sin^2(x) = \frac{1 - \cos(2x)}{2}$	$\cos(x)$ $\int f dx = -\cos(x)$	$\arcsin(x)$ $D(f_{-1}) = [-1, 1]$		$\frac{1}{\sqrt{1-x^2}}$ $D(f_{-1}') = (-1, 1)$
$\cos(x)$ $= \frac{e^{ix} + e^{-ix}}{2}$ <i>even, <math>T=2\pi</math></i>		$\cos(x+y) = \cos(x)\cos(y) - \sin(x)\sin(y)$ $\cos(2x) = \cos^2(x) - \sin^2(x)$ $\cos^2(x) = \frac{1 + \cos(2x)}{2}$	$-\sin(x)$ $\int f dx = \sin(x)$	$\arccos(x)$ $D(f_{-1}) = [-1, 1]$		$\frac{-1}{\sqrt{1-x^2}}$ $D(f_{-1}') = (-1, 1)$
$\tan(x)$ $= \text{tg}(x)$ $= \frac{\sin(x)}{\cos(x)}$ <i>odd, <math>T=\pi</math></i>		$\tan(x+y) = \frac{\tan(x) + \tan(y)}{1 - \tan(x)\tan(y)}$ $\tan(2x) = \frac{2\tan(x)}{1 - \tan^2(x)}$	$\frac{1}{\cos^2(x)}$ $\int f dx = -\ln \cos(x) $	$\arctan(x)$ $= \text{arctg}(x)$ $D(f_{-1}) = \mathbb{R}$		$\frac{1}{x^2+1}$ $D(f_{-1}') = \mathbb{R}$
$\cot(x)$ $= \frac{\cos(x)}{\sin(x)}$ <i>odd, <math>T=\pi</math></i>		$\cot(x+y) = \frac{\cot(x)\cot(y) - 1}{\cot(x) + \cot(y)}$ $\cot(2x) = \frac{\cot^2(x) - 1}{2\cot(x)}$	$\frac{-1}{\sin^2(x)}$	$\text{arccot}(x)$ $D(f_{-1}) = \mathbb{R}$		$\frac{-1}{x^2+1}$ $D(f_{-1}') = \mathbb{R}$
$\sinh(x)$ $= \frac{e^x - e^{-x}}{2}$ <i>odd</i>		$\sinh(x+y) = \sinh(x)\cosh(y) + \cosh(x)\sinh(y)$ $\sinh(2x) = 2\sinh(x)\cosh(x)$ $\sinh^2(x) = \frac{\cosh(2x) - 1}{2}$	$\cosh(x)$ $\int f dx = \sinh(x)$	$\text{argsinh}(x)$ $= \ln(x + \sqrt{x^2+1})$ $D(f_{-1}) = \mathbb{R}$		$\frac{1}{\sqrt{x^2+1}}$ $D(f_{-1}') = \mathbb{R}$
$\cosh(x)$ $= \frac{e^x + e^{-x}}{2}$ <i>even</i>		$\cosh^2(x) - \sinh^2(x) = 1$ $\cosh(x+y) = \cosh(x)\cosh(y) + \sinh(x)\sinh(y)$ $\cosh(2x) = \cosh^2(x) + \sinh^2(x)$ $\cosh^2(x) = \frac{\cosh(2x) + 1}{2}$	$\sinh(x)$ $\int f dx = \cosh(x)$	$\text{argcosh}(x)$ $= \ln(x + \sqrt{x^2-1})$ $D(f_{-1}) = [1, \infty)$		$\frac{1}{\sqrt{x^2-1}}$ $D(f_{-1}') = (1, \infty)$
$\tanh(x)$ $= \text{tgh}(x)$ $= \frac{\sinh(x)}{\cosh(x)}$ <i>odd</i>		$\tanh(x+y) = \frac{\tanh(x) + \tanh(y)}{1 + \tanh(x)\tanh(y)}$ $\tanh(2x) = \frac{2\tanh(x)}{1 + \tanh^2(x)}$	$\frac{1}{\cosh^2(x)}$ $\int f dx = \ln \cosh(x) $	$\text{argtanh}(x)$ $= \text{argtgh}(x)$ $= \frac{1}{2} \ln\left(\frac{1+x}{1-x}\right)$ $D(f_{-1}) = (-1, 1)$		$\frac{1}{1-x^2}$ $D(f_{-1}') = (-1, 1)$
$\coth(x)$ $= \frac{\cosh(x)}{\sinh(x)}$ <i>odd</i>		$\coth(x+y) = \frac{1 + \coth(x)\coth(y)}{\coth(x) + \coth(y)}$ $\coth(2x) = \frac{1 + \coth^2(x)}{2\coth(x)}$	$\frac{-1}{\sinh^2(x)}$	$\text{argcoth}(x)$ $= \frac{1}{2} \ln\left(\frac{x+1}{x-1}\right)$ $D(f_{-1}) =  x  > 1$		$\frac{1}{1-x^2}$ $D(f_{-1}') =  x  > 1$