Trigonometric function	Input	Output	Derivative	Inverse	Derivative of inverse	Hyperbolic function	Input	Output	Derivative	Inverse	Derivative of inverse
$\sin(x)$	$[-\frac{\pi}{2}, \frac{\pi}{2}]$	$[-1, 1]$	$\cos(x)$	$\arcsin(x)$	$\frac{1}{\sqrt{1-x^2}}$	$\sinh(x)$	$(-\infty, \infty)$	$(-\infty, \infty)$	$\cosh(x)$	$\operatorname{arsinh}(x)$	$\frac{1}{\sqrt{x^2+1}}$
$\cos(x)$	$[0, \pi]$	$[-1, 1]$	$-\sin(x)$	$\arccos(x)$	$-\frac{1}{\sqrt{1-x^2}}$	$\cosh(x)$	$[0, \infty)$	$[1, \infty)$	$\sinh(x)$	$\operatorname{arcosh}(x)$	$\frac{1}{\sqrt{x^2-1}}$
$\tan(x)$	$(-\frac{\pi}{2}, \frac{\pi}{2})$	$(-\infty, \infty)$	$\sec^2(x)$	$\arctan(x)$	$\frac{1}{1+x^2}$	$\tanh(x)$	$(-\infty, \infty)$	$(-1, 1)$	$\operatorname{sech}^2(x)$	$\operatorname{artanh}(x)$	$\frac{1}{1-x^2}$
$\cot(x)$	$(0, \pi)$	$(-\infty, \infty)$	$-\csc^2(x)$	$\operatorname{arccot}(x)$	$-\frac{1}{1+x^2}$	$\coth(x)$	$(-\infty, \infty)$	$(-\infty, -1) \cup (1, \infty)$	$-\operatorname{csch}^2(x)$	$\operatorname{arcoth}(x)$	$\frac{1}{1-x^2}$
$\sec(x)$	$[0, \frac{\pi}{2}) \cup (\frac{\pi}{2}, \pi]$	$(-\infty, -1] \cup [1, \infty)$	$\sec(x)\tan(x)$	$\operatorname{arcsec}(x)$	$\frac{1}{\lvert x\rvert\sqrt{x^2-1}}$	$\operatorname{sech}(x)$	$[0, \infty)$	$(0, 1]$	$-\operatorname{sech}(x)\tanh(x)$	$\operatorname{arsech}(x)$	$-\frac{1}{x\sqrt{1-x^2}}$
$\csc(x)$	$[-\frac{\pi}{2}, 0) \cup (0, \frac{\pi}{2}]$	$(-\infty, -1] \cup [1, \infty)$	$-\csc(x)\cot(x)$	$\operatorname{arccsc}(x)$	$-\frac{1}{\lvert x\rvert\sqrt{x^2-1}}$	$\operatorname{csch}(x)$	$(-\infty, \infty)$	$(-\infty, 0) \cup (0, \infty)$	$-\operatorname{csch}(x)\coth(x)$	$\operatorname{arcsch}(x)$	$-\frac{1}{\lvert x\rvert\sqrt{1+x^2}}$