

Trigonometric functions

function	domain	range	periodic	even/ odd	graph
$f(x) = \sin x$	\mathbf{R}	$[-1, 1]$	2π	odd	yes
$f(x) = \cos x$	\mathbf{R}	$[-1, 1]$	2π	even	yes
$f(x) = \tan x$	$\mathbf{R} - \{(2n + 1)\pi/2 : n \in \mathbf{Z}\}$	\mathbf{R}	π	odd	yes
$f(x) = \csc x$	$\mathbf{R} - \{n\pi : n \in \mathbf{Z}\}$	-	2π	odd	no
$f(x) = \sec x$	$\mathbf{R} - \{(2n + 1)\pi/2 : n \in \mathbf{Z}\}$	-	2π	even	no
$f(x) = \cot x$	$\mathbf{R} - \{n\pi : n \in \mathbf{Z}\}$	-	π	odd	no

Inverse of Trigonometric functions

function	domain	range	definition	graph
$f(x) = \sin^{-1} x$	$[-1, 1]$	$[-\pi/2, \pi/2]$	$y = \sin^{-1} x \Leftrightarrow \sin y = x$	yes
$f(x) = \cos^{-1} x$	$[-1, 1]$	$[0, \pi]$	$y = \cos^{-1} x \Leftrightarrow \cos y = x$	yes
$f(x) = \tan^{-1} x$	\mathbf{R}	$(-\pi/2, \pi/2)$	$y = \tan^{-1} x \Leftrightarrow \tan y = x$	yes
$f(x) = \csc^{-1} x$	-	-	$y = \csc^{-1} x \Leftrightarrow \csc y = x$	no
$f(x) = \sec^{-1} x$	-	-	$y = \sec^{-1} x \Leftrightarrow \sec y = x$	no
$f(x) = \cot^{-1} x$	-	-	$y = \cot^{-1} x \Leftrightarrow \cot y = x$	no