

Inverse Trigonometric Functions

function	restricted domain	graph
$y = \sin x$	$[-\frac{\pi}{2}, \frac{\pi}{2}]$	
$y = \cos x$	$[0, \pi]$	
$y = \tan x$	$(-\frac{\pi}{2}, \frac{\pi}{2})$	
$y = \cot x$	$(0, \pi)$	
$y = \sec x$	$[0, \pi], x \neq \frac{\pi}{2}$	
$y = \csc x$	$[-\frac{\pi}{2}, \frac{\pi}{2}], x \neq 0$	

inverse	domain	range	graph
$y = \sin^{-1} x$	$[-1, 1]$	$[-\frac{\pi}{2}, \frac{\pi}{2}]$	
$y = \cos^{-1} x$	$[-1, 1]$	$[0, \pi]$	
$y = \tan^{-1} x$	$(-\infty, \infty)$	$(-\frac{\pi}{2}, \frac{\pi}{2})$	
$y = \cot^{-1} x$	$(-\infty, \infty)$	$(0, \pi)$	
$y = \sec^{-1} x$	$(-\infty, -1] \cup [1, \infty)$	$[0, \pi], y \neq \frac{\pi}{2}$	
$y = \csc^{-1} x$	$(-\infty, -1] \cup [1, \infty)$	$[-\frac{\pi}{2}, \frac{\pi}{2}], y \neq 0$	