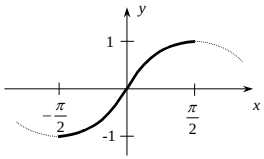
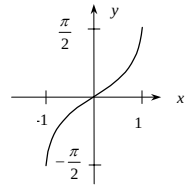
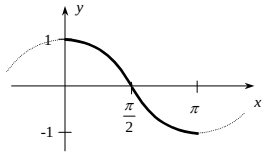
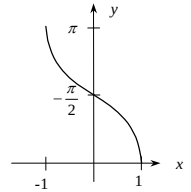
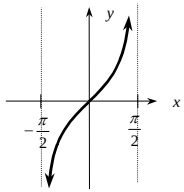
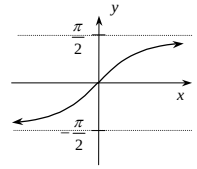
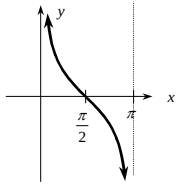
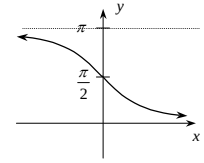
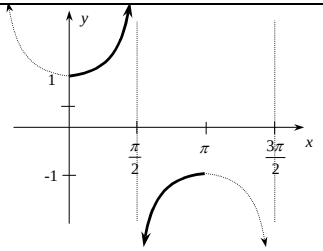
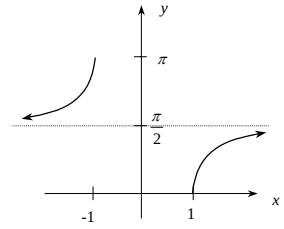
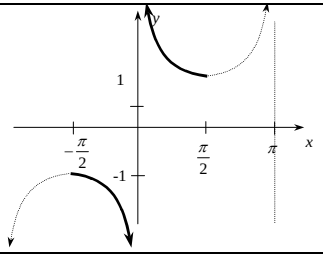
Inverse Trigonometric Functions

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