

Inverse Trig Functions

Definition	Domain	Range	Graph
$y = \sin^{-1} x$ iff $x = \sin y$	$-1 \leq x \leq 1$	$-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}$	
$y = \cos^{-1} x$ iff $x = \cos y$	$-1 \leq x \leq 1$	$0 \leq y \leq \pi$	
$y = \tan^{-1} x$ iff $x = \tan y$	$-\infty < x < \infty$	$-\frac{\pi}{2} < y < \frac{\pi}{2}$	

Definition	Domain	Range	Graph
$y = \cot^{-1} x$ iff $x = \cot y$ iff $\frac{1}{x} = \tan y$	$-\infty < x < \infty$	$0 < y < \pi$	
$y = \sec^{-1} x$ iff $x = \sec y$ iff $\frac{1}{x} = \cos y$	$x \geq 1$ or $x \leq -1$	$0 \leq y < \frac{\pi}{2}$ or $\pi \leq y < \frac{3\pi}{2}$	
$y = \csc^{-1} x$ iff $x = \csc y$ iff $\frac{1}{x} = \sin y$	$x \geq 1$ or $x \leq -1$	$\frac{\pi}{2} \leq y < \pi$ or $\pi < y \leq \frac{3\pi}{2}$	