

Inverse Trigonometric Functions

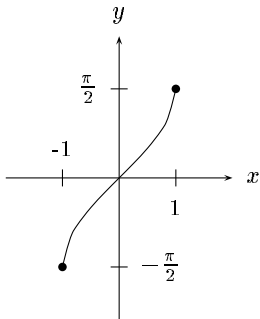


Figure 1: $y = \sin^{-1} x$

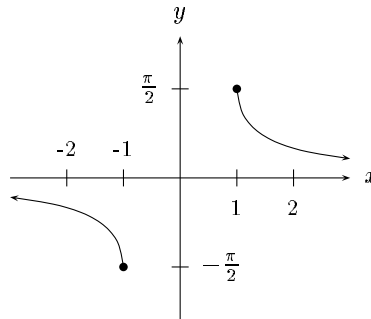


Figure 2: $y = \csc^{-1} x$

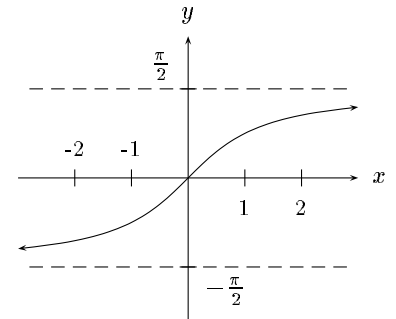


Figure 3: $y = \tan^{-1} x$

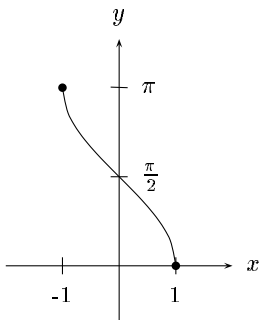


Figure 4: $y = \cos^{-1} x$

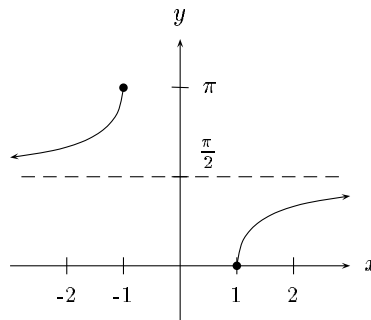


Figure 5: $y = \sec^{-1} x$

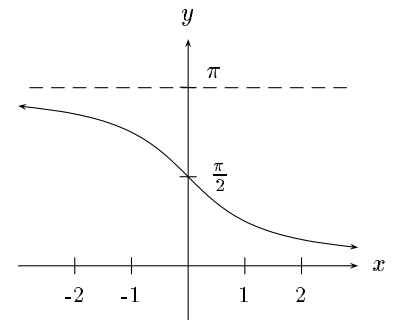


Figure 6: $y = \cot^{-1} x$

<u>Function</u>	<u>Domain</u>	<u>Range</u>
$y = \sin^{-1} x \iff \sin y = x$	$-1 \leq x \leq 1$	$-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}$
$y = \cos^{-1} x \iff \cos y = x$	$-1 \leq x \leq 1$	$0 \leq y \leq \pi$
$y = \tan^{-1} x \iff \tan y = x$	$-\infty < x < \infty$	$-\frac{\pi}{2} < y < \frac{\pi}{2}$
$y = \cot^{-1} x \iff \cot y = x$	$-\infty < x < \infty$	$0 < y < \pi$
$y = \sec^{-1} x \iff \sec y = x$	$ x \geq 1$	$0 \leq y \leq \pi, \quad y \neq \frac{\pi}{2}$
$y = \csc^{-1} x \iff \csc y = x$	$ x \geq 1$	$-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}, \quad y \neq 0$