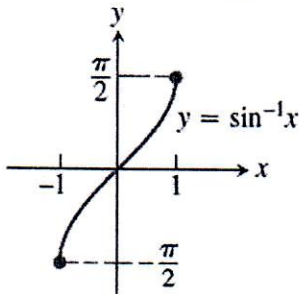


Inverse Trigonometric Functions

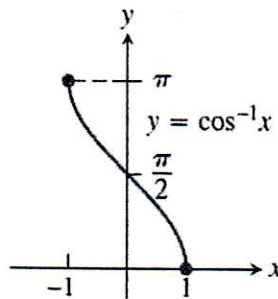
Trig.	domain	range
$\sin x$	$-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$	$-1 \leq y \leq 1$
$\cos x$	$0 \leq x \leq \pi$	$-1 \leq y \leq 1$
$\tan x$	$-\frac{\pi}{2} < x < \frac{\pi}{2}$	$-\infty < y < \infty$
$\cot x$	$0 < x < \pi$	$-\infty < y < \infty$
$\sec x$	$0 \leq x \leq \pi, x \neq \frac{\pi}{2}$	$y \leq -1$ or $y \geq 1$
$\csc x$	$-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}, x \neq 0$	$y \leq -1$ or $y \geq 1$

Inverse Trig.	domain	range	derivative
$\sin^{-1} x$	$-1 \leq x \leq 1$	$-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}$	$\frac{1}{\sqrt{1-x^2}}$
$\cos^{-1} x$	$-1 \leq x \leq 1$	$0 \leq y \leq \pi$	$-\frac{1}{\sqrt{1-x^2}}$
$\tan^{-1} x$	$-\infty < x < \infty$	$-\frac{\pi}{2} < y < \frac{\pi}{2}$	$\frac{1}{1+x^2}$
$\cot^{-1} x$	$-\infty < x < \infty$	$0 < y < \pi$	$-\frac{1}{1+x^2}$
$\sec^{-1} x$	$x \leq -1$ or $x \geq 1$	$0 \leq y \leq \pi, y \neq \frac{\pi}{2}$	$\frac{1}{ x \sqrt{x^2-1}}$
$\csc^{-1} x$	$x \leq -1$ or $x \geq 1$	$-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}, y \neq 0$	$-\frac{1}{ x \sqrt{x^2-1}}$

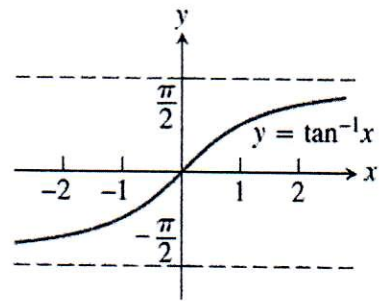
Domain: $-1 \leq x \leq 1$
Range: $-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}$



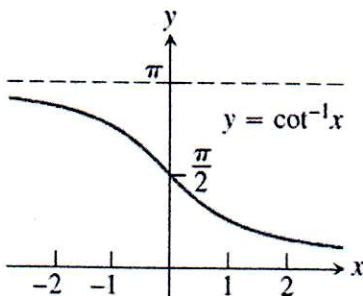
Domain: $-1 \leq x \leq 1$
Range: $0 \leq y \leq \pi$



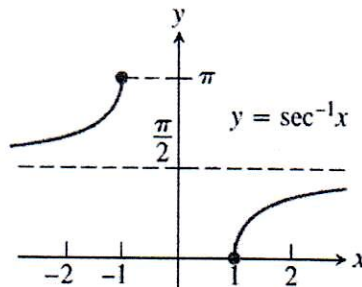
Domain: $-\infty < x < \infty$
Range: $-\frac{\pi}{2} < y < \frac{\pi}{2}$



Domain: $-\infty < x < \infty$
Range: $0 < y < \pi$



Domain: $x \leq -1$ or $x \geq 1$
Range: $0 \leq y \leq \pi, y \neq \frac{\pi}{2}$



Domain: $x \leq -1$ or $x \geq 1$
Range: $-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}, y \neq 0$

