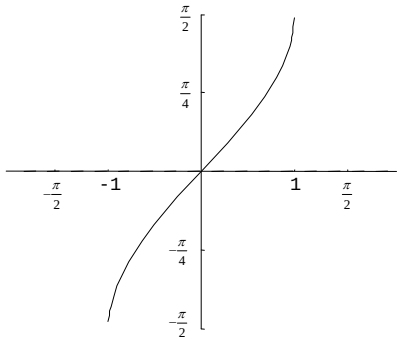
Graphs of Inverse Trig Functions

Domain: $[-1,1]$

Range: $\left[-\frac{\pi}{2},\frac{\pi}{2}\right]$

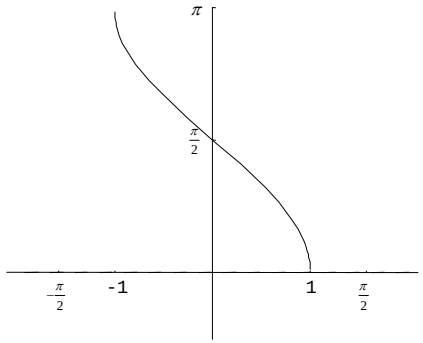


$f(x)=\sin^{-1}x$

$f(x)=\arcsin x$

Domain: $[-1,1]$

Range: $[0,\pi]$

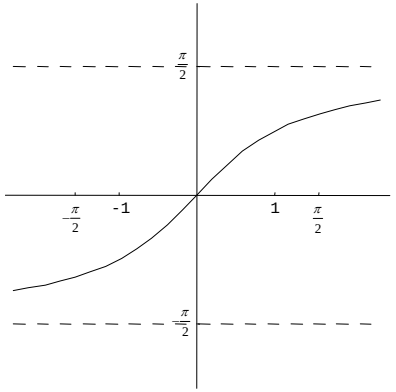


$f(x)=\cos^{-1}x$

$f(x)=\arccos x$

Domain: $(-\infty,\infty)$

Range: $\left(-\frac{\pi}{2},\frac{\pi}{2}\right)$

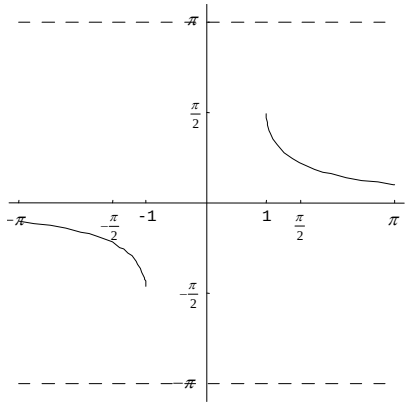


$f(x)=\tan^{-1}x$

$f(x)=\arctan x$

Domain: $(-\infty,-1]\cup[1,\infty)$

Range: $\left[-\frac{\pi}{2},\frac{\pi}{2}\right], y\neq 0$

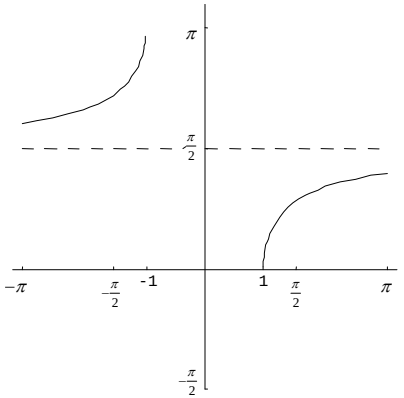


$f(x)=\csc^{-1}x$

$f(x)=\operatorname{arccsc} x$

Domain: $(-\infty,-1]\cup[1,\infty)$

Range: $[0,\pi], y\neq\frac{\pi}{2}$

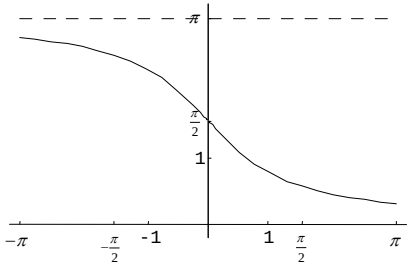


$f(x)=\sec^{-1}x$

$f(x)=\operatorname{arcsec} x$

Domain: $(-\infty,\infty)$

Range: $(0,\pi)$



$f(x)=\cot^{-1}x$

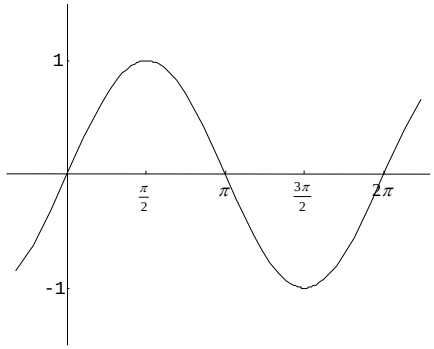
$f(x)=\operatorname{arccot} x$

Graphs of Trig Functions

Domain: $(-\infty,\infty)$

Range: $[-1,1]$

Period: 2π

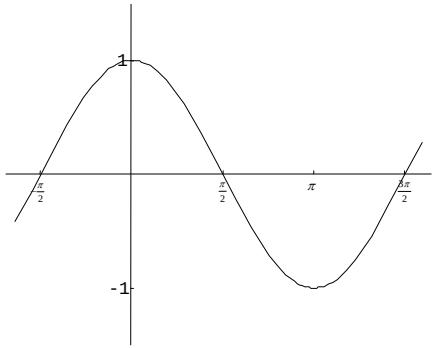


$f(x)=\sin x$

Domain: $(-\infty,\infty)$

Range: $[-1,1]$

Period: 2π

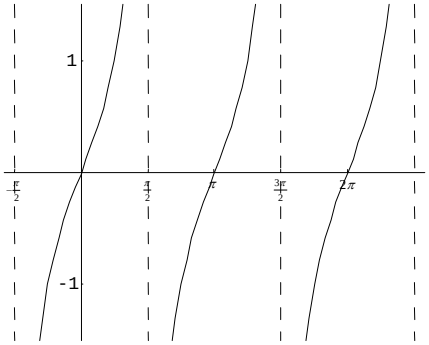


$f(x)=\cos x$

Domain: $\left(\left(k-\frac{1}{2}\right)\pi,\left(k+\frac{1}{2}\right)\pi\right)$

Range: $(-\infty,\infty)$

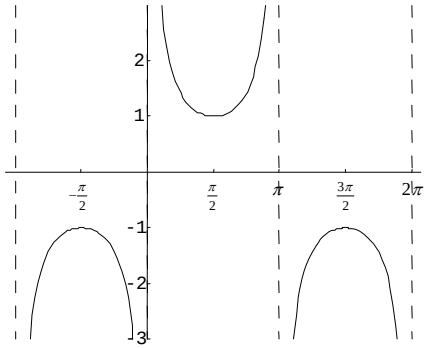
Period: π



$f(x)=\tan x$

Domain: $((k-1)\pi,k\pi)$

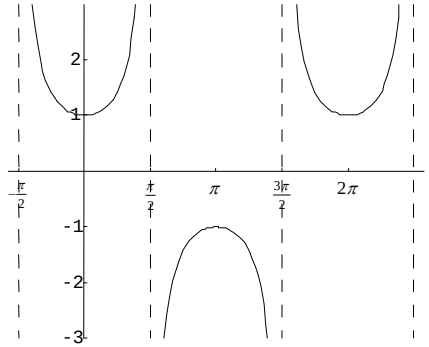
Range: $(-\infty,-1]\cup[1,\infty)$



$f(x)=\csc x=\dfrac{1}{\sin x}$

Domain: $\left(\left(k-\frac{1}{2}\right)\pi,\left(k+\frac{1}{2}\right)\pi\right)$

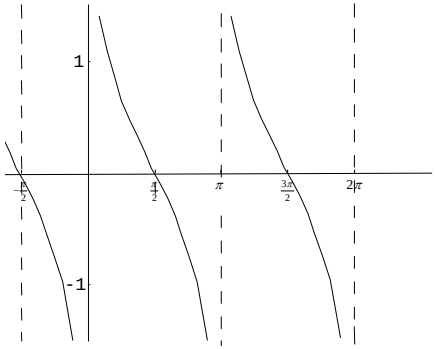
Range: $(-\infty,-1]\cup[1,\infty)$



$f(x)=\sec x=\dfrac{1}{\cos x}$

Domain: $((k-1)\pi,k\pi)$

Range: $(-\infty,\infty)$



$f(x)=\cot x=\dfrac{1}{\tan x}$