

TOPIC: GRAPHS OF SECANT & COSECANT

Graphing the Secant & Cosecant Functions

Recall Reciprocal Identities

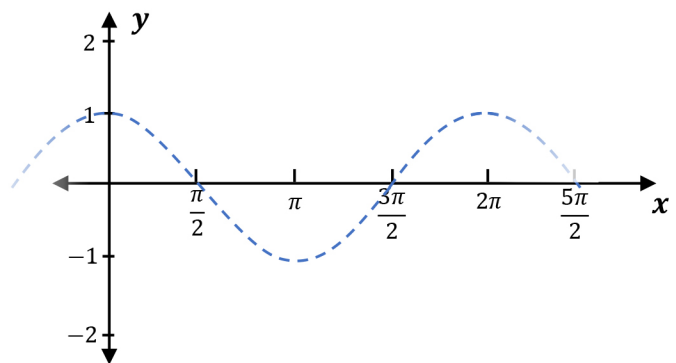
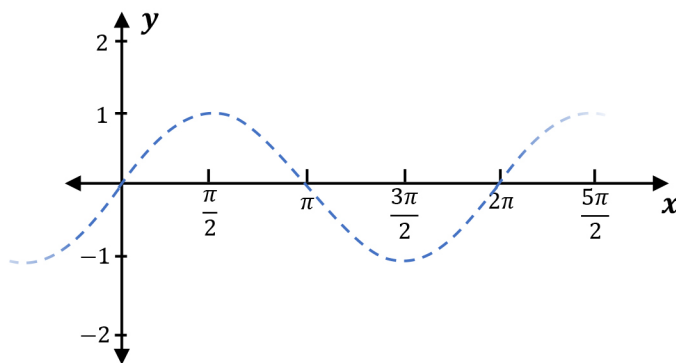
$$\csc x = \frac{1}{\sin x} \quad \sec x = \frac{1}{\cos x}$$

◆ Because they are reciprocals, we can use $\sin$ & $\cos$ to graph $\csc$ & $\sec$.

▸ When $\sin$ & $\cos = 0$, $\csc$ & $\sec$ are undefined, so they have _____ and approach ∞ .

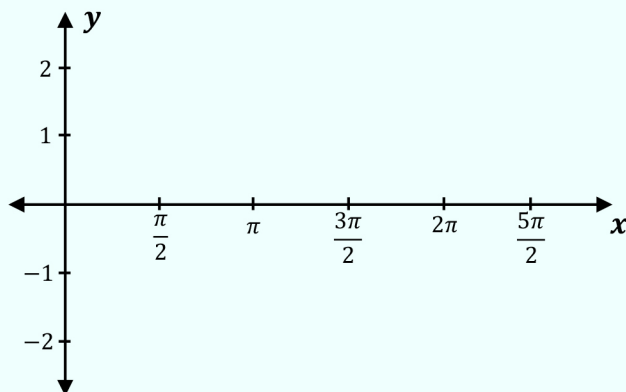
x	0	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π	$\frac{5\pi}{2}$
$\sin x$	0	1	0	-1	0	1
$\csc x$						

x	0	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π	$\frac{5\pi}{2}$
$\cos x$	1	0	-1	0	1	0
$\sec x$						



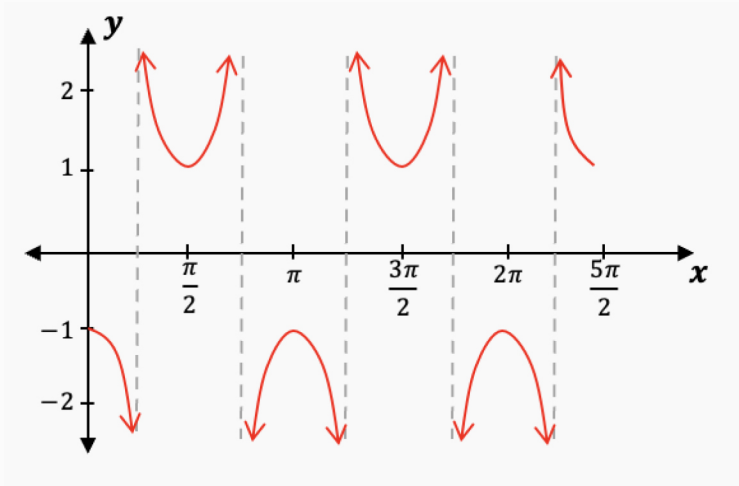
EXAMPLE

Graph the function $y = \csc(2x)$.



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PRACTICE Below is a graph of the function $y = \sec(bx - \pi)$. Determine the value of b .



PRACTICE Below is a graph of the function $y = \csc(bx)$. Determine the value of b .

