

Trigonometry Worksheet: Graph Trigonometric Functions (5)

Graph the trigonometric function given by

$$y = -\tan\left(x + \frac{\pi}{4}\right)$$

The tangent function has a period equal to π and vertical asymptotes at $\pm \pi/2$. Hence a cycle may be found by solving

$$-\frac{\pi}{2} < x + \frac{\pi}{4} < \frac{\pi}{2}$$

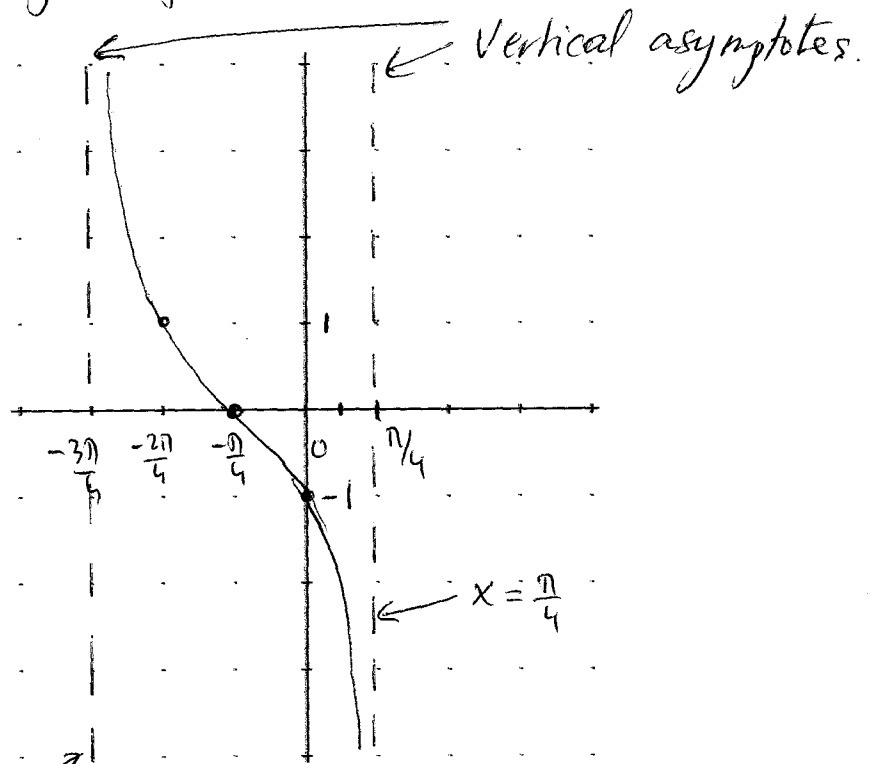
$$\Rightarrow -\frac{3\pi}{4} < x < \frac{\pi}{4}$$

The graph of the given function has vertical asymptotes at $x = \frac{3\pi}{4}$ and $x = \frac{\pi}{4}$

$x + \pi/4$	$-\pi/2$	$-\pi/4$	0	$\pi/4$	$\pi/2$
$\tan(x + \pi/4)$	U	-1	0	1	U
x	$-3\pi/4$	$-2\pi/4$	$-\pi/4$	0	$\pi/4$
y	U	1	0	-1	U
	VA				VA

U = undefined.

V.A = Vertical asymptote



$$x = -\frac{3\pi}{4}$$