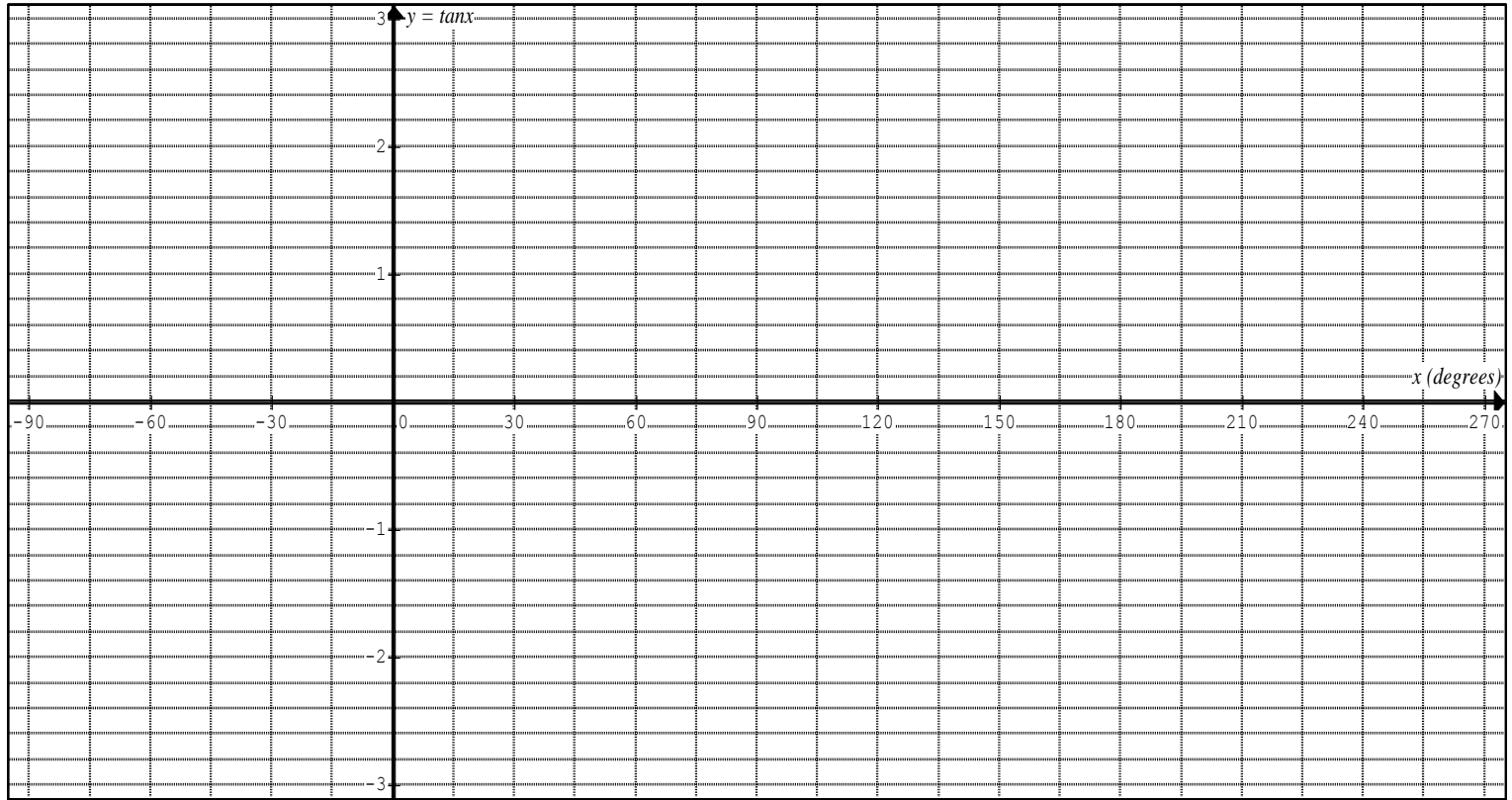


Graphing the Tangent Function

Sketch the graph of $y = \tan \theta$ for $0^\circ \leq \theta \leq 360^\circ$ or $0 \leq \theta \leq 2\pi$. Describe its characteristics.

Solution:
Complete the following table of values for $y = \tan \theta$. Plot the points and join them with a smooth curve.

θ	-90°	-60°	-45°	-30°	0°	30°	45°	60°	90°	120°	135°	150°	180°	210°	225°	240°	270°
	$-\frac{\pi}{2}$	$-\frac{\pi}{3}$	$-\frac{\pi}{4}$	$-\frac{\pi}{6}$	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	π	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$
$\tan \theta$ (exact)																	
$\tan \theta$ (approximate)																	



The tangent graph is periodic but NOT sinusoidal.

PERIOD:	MAXIMUM & MINIMUM VALUES:	Y-INTERCEPT:	θ -INTERCEPTS :
LOCATION OF VERTICAL ASYMPTOTES:	DOMAIN:	RANGE:	

