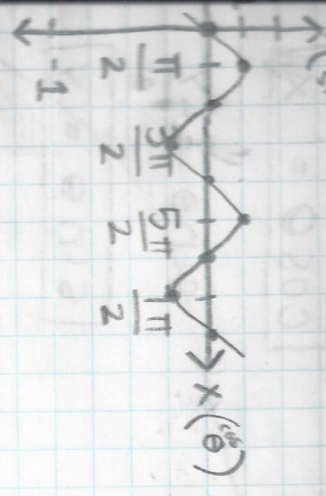


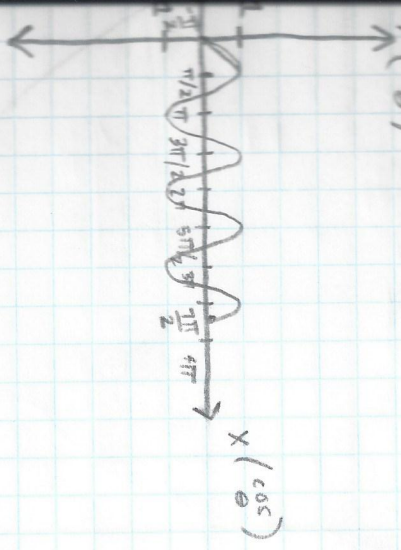
$t = \theta$ (it is an angle)



θ	$y = \sin \theta$
0	0
$\pi/2$	1
π	0
$3\pi/2$	-1
2π	0

Function

$t = \theta$ (it is an angle)

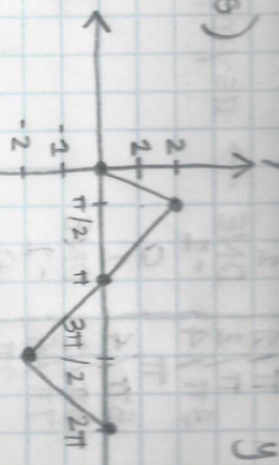


θ	$y = \cos \theta$
0	1
$\pi/2$	0
π	-1
$3\pi/2$	0
2π	1
$7\pi/2$	0

$y = \sin^2 \theta$ (y = sine)

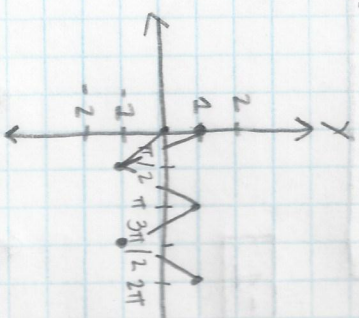
θ	$y = \sin^2 \theta$
0	0
$\pi/2$	1
π	0
$3\pi/2$	1
2π	0

use unit circle sheet!



$y = \cos^2 \theta$

θ	$y = \cos^2 \theta$
0	1
$\pi/2$	0
π	1
$3\pi/2$	0
2π	1

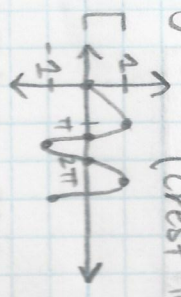


θ	$y = \cos \theta$
0	1
$\pi/2$	0
π	-1
$3\pi/2$	0
2π	1

Period: Length of 2 cycle on

Amplitude: Height of the wave (crest to trough)

amp. = 2



Graphing Trigonometric Functions

The tangent function:

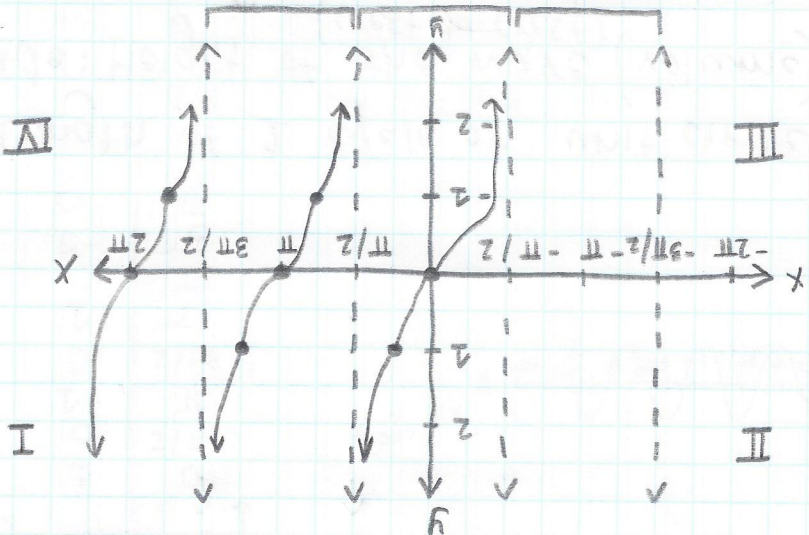
* reference unit circle!

θ	$\tan \theta$
0	0
$\pi/4$	1
$\pi/2$	DNE \leftarrow asymptote
$3\pi/4$	-1
π	0
$5\pi/4$	1
$3\pi/2$	DNE
$7\pi/4$	-1
2π	0

$\tan \theta = \frac{y}{x}$	$y = \sin \theta$ $x = \cos \theta$	$\cot \theta = \frac{1}{\tan \theta}$ $\csc \theta = \frac{1}{\sin \theta}$ $\sec \theta = \frac{1}{\cos \theta}$
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$\tan(3\pi/4) = \frac{\sqrt{2}}{2} = -\frac{\sqrt{2}}{2} = -1$

$\tan(\pi) = \frac{-1}{0} = \text{DNE}$



* approaches asymptote but never touches! (S curve)

Period = π

Amplitude = DNE because a tangent function goes on forever!

* $\frac{0}{x} \rightarrow \text{DNE}$
 $\frac{2}{2} = \frac{1}{1} x$