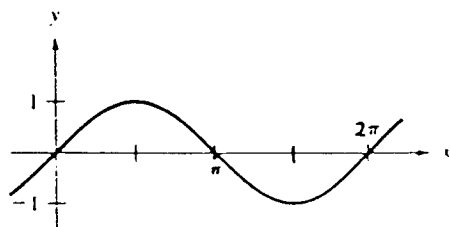
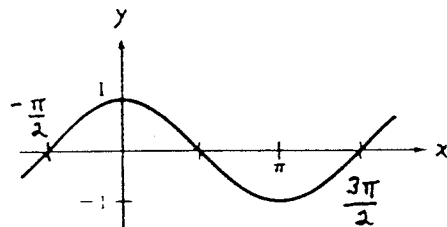


Math 16A  
 Kouba  
 Trigonometry

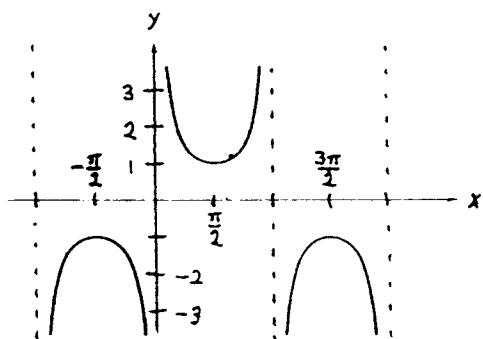
Please commit these graphs to memory.



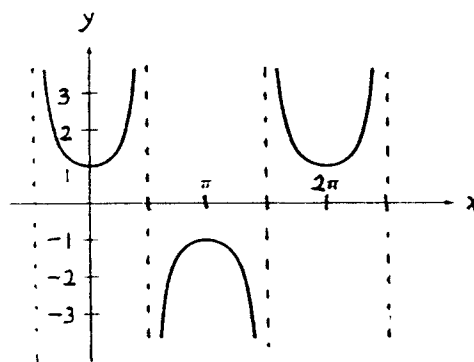
$y = \sin x$



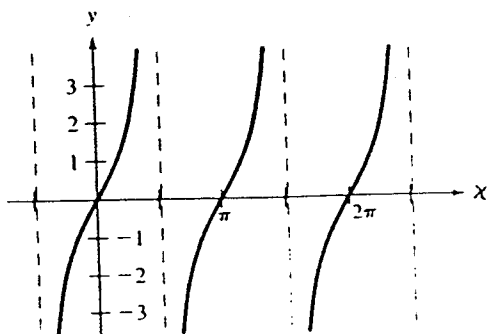
$y = \cos x$



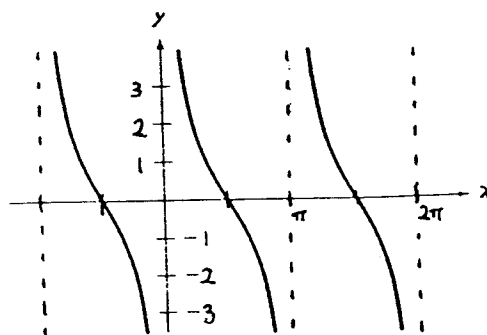
$y = \csc x = \frac{1}{\sin x}$



$y = \sec x = \frac{1}{\cos x}$

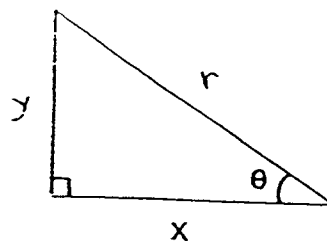


$y = \tan x$



$y = \cot x = \frac{1}{\tan x}$

Math 16 A  
 Kouba  
 Trigonometry



1.  $\sin^2 \theta + \cos^2 \theta = 1$

2.  $1 + \tan^2 \theta = \sec^2 \theta$

3.  $1 + \cot^2 \theta = \csc^2 \theta$

4.  $\sin 2\theta = 2 \cos \theta \sin \theta$

5.  $\cos 2\theta = 2 \cos^2 \theta - 1$

$= 1 - 2 \sin^2 \theta$

$= \cos^2 \theta - \sin^2 \theta$

$\cos \theta = x / r$

$\sin \theta = y / r$

$\tan \theta = y / x$

$\sec \theta = r / x$

$\csc \theta = r / y$

$\cot \theta = x / y$

$\theta$

degrees	radians	$\cos \theta$	$\sin \theta$	$\tan \theta$
$0^\circ$	0	1	0	0
$30^\circ$	$\pi/6$	$\sqrt{3}/2$	1/2	$1/\sqrt{3}$
$45^\circ$	$\pi/4$	$\sqrt{2}/2$	$\sqrt{2}/2$	1
$60^\circ$	$\pi/3$	1/2	$\sqrt{3}/2$	$\sqrt{3}$
$90^\circ$	$\pi/2$	0	1	undefined

# COSINE AND SINE VALUES ON THE UNIT CIRCLE

