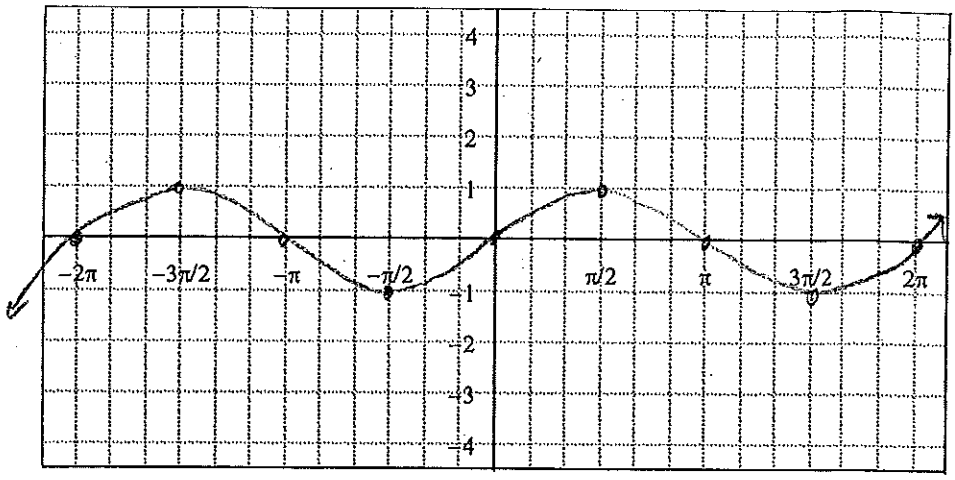
Notes

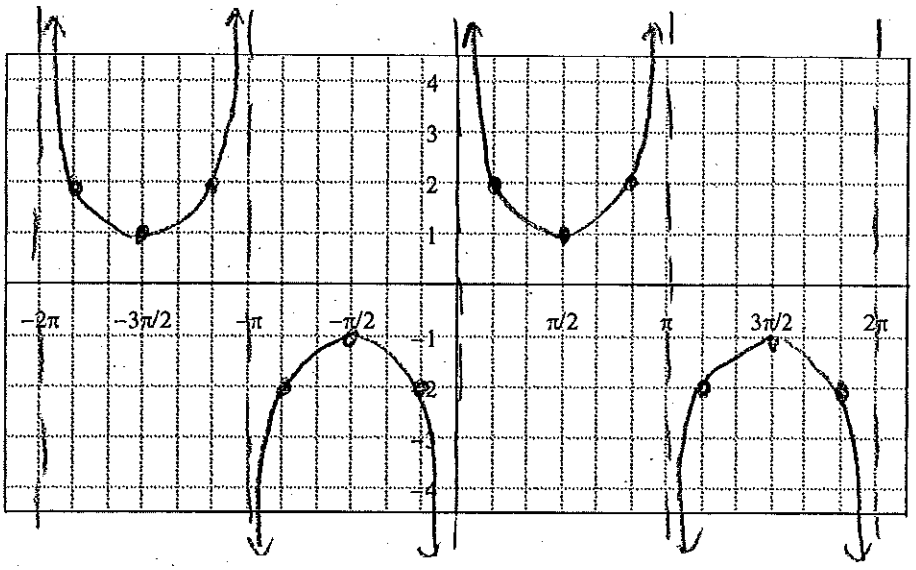
PRE-AP PRE-CALCULUS – PARENT GRAPHS OF TRIGONOMETRIC FUNCTIONS

$f(x) = \sin x$	
Domain:	$(-\infty, +\infty)$
Range:	$[-1, 1]$
Period:	2π
Symmetry:	origin
Even/Odd	odd
Continuity:	yes
Zeros:	$x = 0\pi + z\pi$

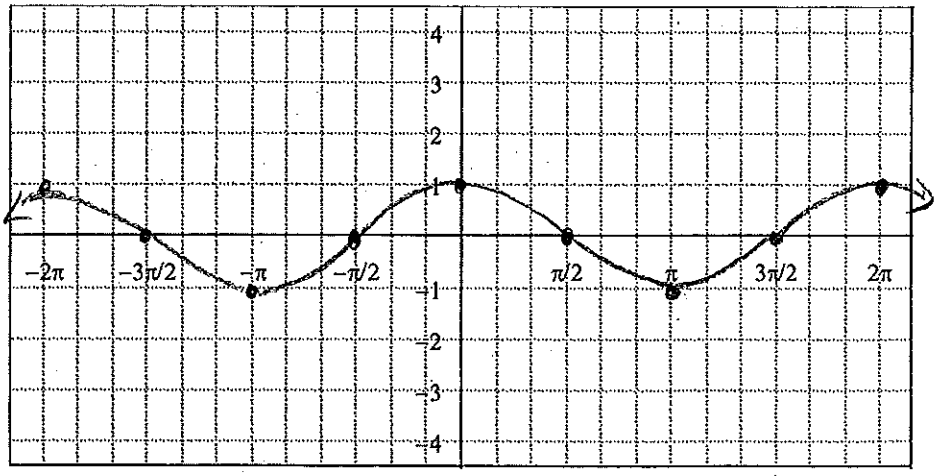
where z is an integer



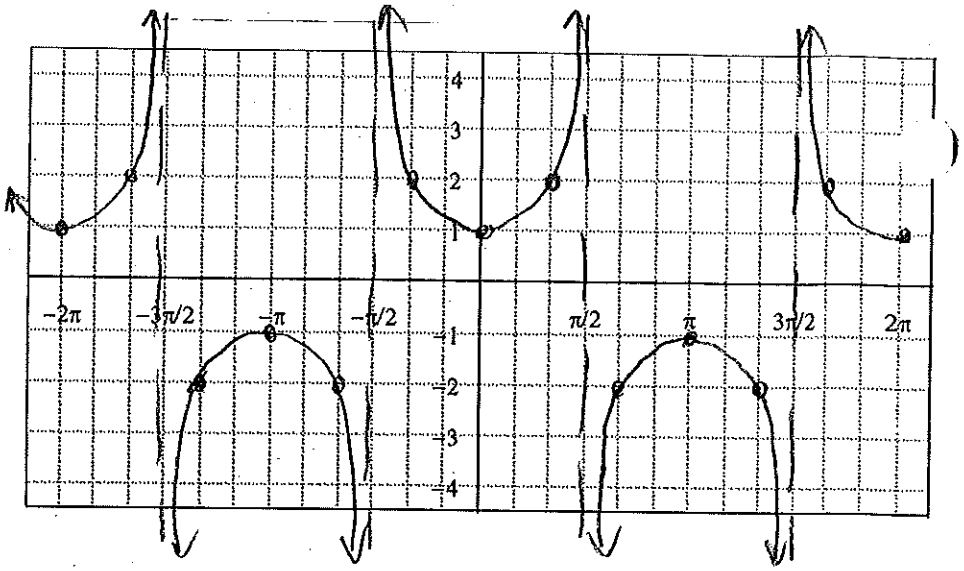
$f(x) = \csc x$	
Domain:	$x \neq z\pi$
Range:	$(-\infty, -1][1, +\infty)$
Period:	2π
Symmetry:	origin
Even/Odd	odd
Continuity:	no
Zeros:	none



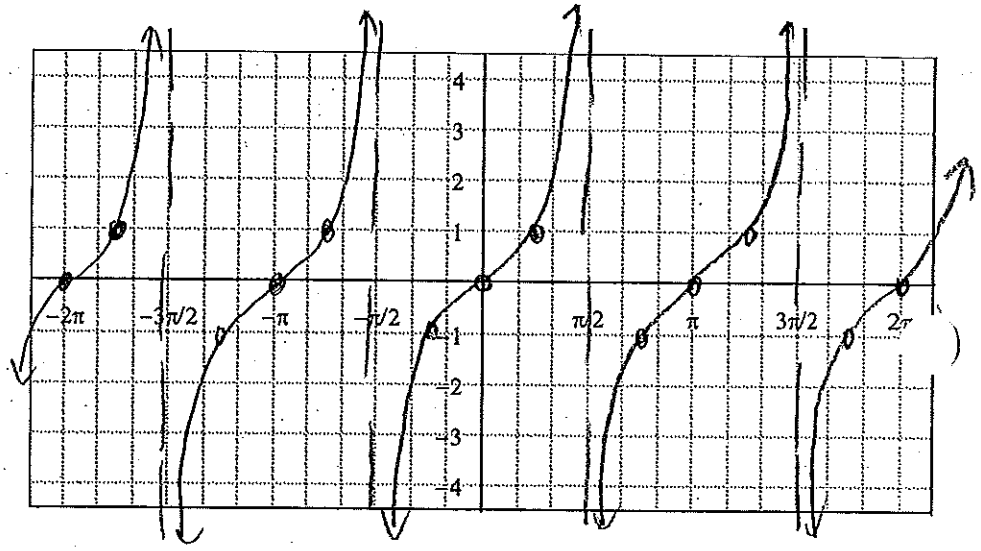
$f(x) = \cos x$	
Domain:	$(-\infty, +\infty)$
Range:	$[-1, 1]$
Period:	2π
Symmetry:	y-axis
Even/Odd	even
Continuity:	yes
Zeros:	$x = \frac{\pi}{2} + z\pi$



$f(x) = \sec x$	
Domain:	$x \neq \pi/2 + 2\pi$
Range:	$(-\infty, -1] [1, +\infty)$
Period:	2π
Symmetry:	y axis
Even/Odd	even
Continuity:	no
Zeros:	none



$f(x) = \tan x$	
Domain:	$x \neq \pi/2 + 2\pi$
Range:	$(-\infty, +\infty)$
Period:	π
Symmetry:	origin
Even/Odd	odd
Continuity:	no
Zeros:	$x = 0\pi + 2\pi$



$f(x) = \cot x$	
Domain:	$x \neq 0\pi + 2\pi$
Range:	$(-\infty, +\infty)$
Period:	π
Symmetry:	origin
Even/Odd	odd
Continuity:	no
Zeros:	$x = \pi/2 + 2\pi$