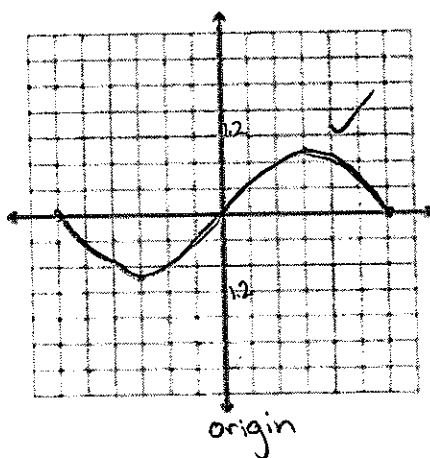


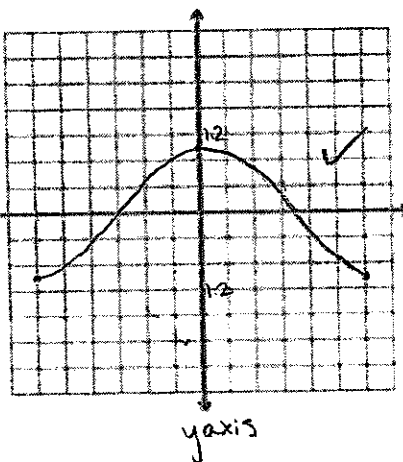
Mathematics 1613: Trigonometry Quiz #6

Problem 20: Sketch the graphs of the six trigonometric functions (you do not have to plug in specific points, but the overall shape of your graph should be accurate). For each graph, use a scale of $\pi/6$ on the x-axis and .4 on the y-axis. Indicate the type of symmetry in each graph (if any) and how that corresponds to the function being even, odd, or neither.

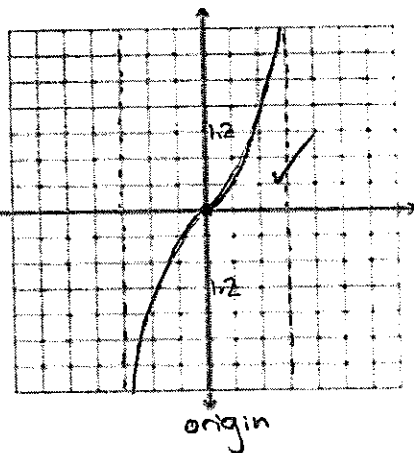
$y = \sin x$



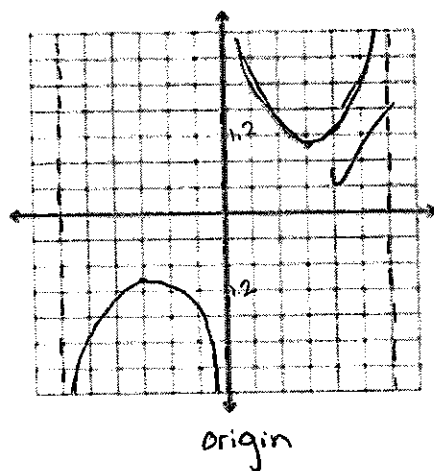
$y = \cos x$



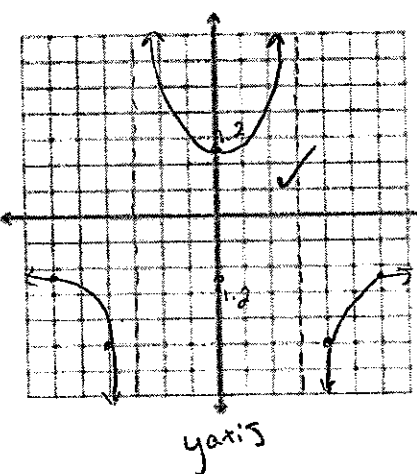
$y = \tan x$



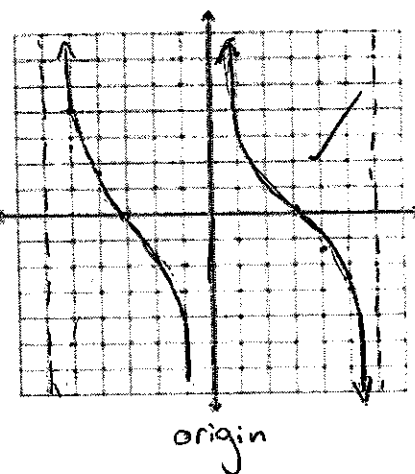
$y = \csc x$



$y = \sec x$



$y = \cot x$



Problem 21: Define the term *period* of a function, and state the period of each of the basic trigonometric functions:

The shortest length before the pattern repeats.

Sine 2π

Cosecant 2π

Cosine 2π

Secant 2π

Tangent π

Cotangent π

✓

Problem 22: Using the above graphs as a guide, fill in the following tables:

	Domain	Range
$y = \sin x$	$(-\infty, \infty)$	$[-1, 1]$
$y = \cos x$	$(-\infty, \infty)$	$[-1, 1]$
$y = \tan x$	all real numbers except odd multiples of $\frac{\pi}{2}$	$(-\infty, \infty)$
$y = \csc x$	all real numbers except even multiples of π	$(-\infty, -1] \cup [1, \infty)$
$y = \sec x$	all real numbers except odd multiples of $\frac{\pi}{2}$	$(-\infty, -1] \cup [1, \infty)$
$y = \cot x$	all real numbers except even multiples of π	all real numbers

