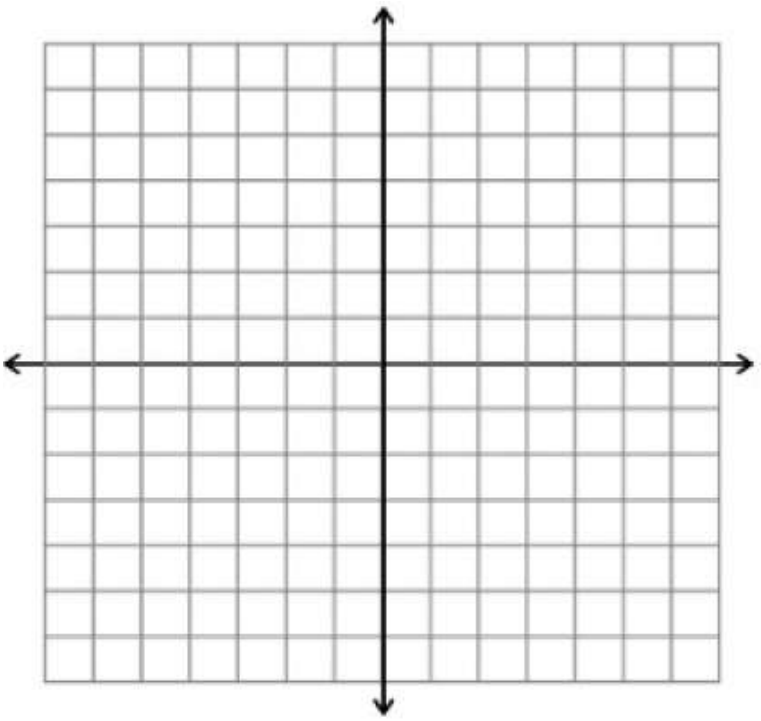
Name:_____

Mathematics 1613: Trigonometry Quiz #8

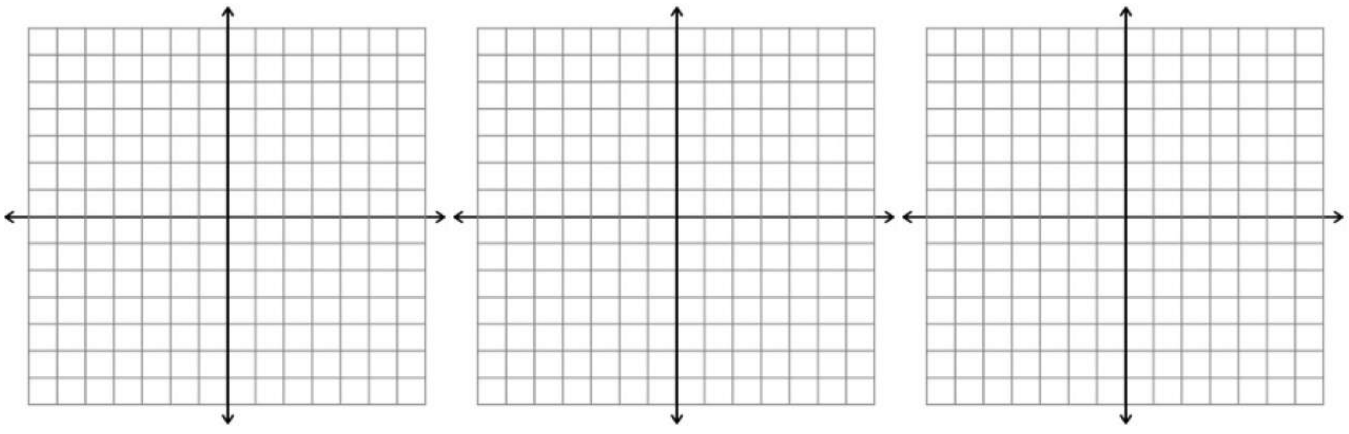
Problem 24: Use the given table to graph the functions $y = \cos x$ and $y = \sec x$ *on the same coordinate plane*. Use increments of .4 on the *y*-axis and $\frac{\pi}{6}$ on the *x*-axis. You may need to use the decimal approximations $\frac{\sqrt{3}}{2} \approx .87$ and $\frac{2}{\sqrt{3}} \approx 1.15$. If desired, you may use any relevant properties of these functions (though please mention and explain your work).

x	$y = \cos x$	$y = \sec x$
$-\pi$		
$-5\pi/6$		
$-2\pi/3$		
$-\pi/2$		
$-\pi/3$		
$-\pi/6$		
0		
$\pi/6$		
$\pi/3$		
$\pi/2$		
$2\pi/3$		
$5\pi/6$		
π		



Problem 25: Provide *quick, accurate sketches* of the graphs for the given trigonometric functions. You may use any scale you wish, so long as it is consistent and clearly indicated.

$y = \tan x$ $y = \cot x$ $y = \csc x$



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Problem 26: Is $\frac{5\pi}{9}$ a solution to the equation $\tan 3\beta = -\sqrt{3}$? Justify your assertion without actually solving the equation.

Problem 27: Solve the following trigonometric equations:

(1) $\sin 4x = 0$

(2) $3\tan^2 x - 1 = 0$