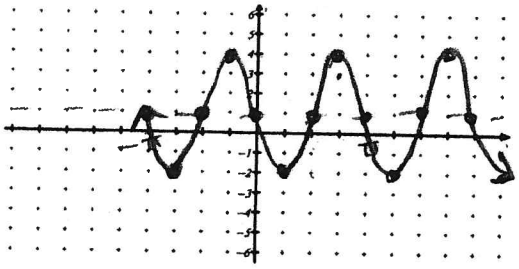
Station One: Sine and Cosine

Name _____

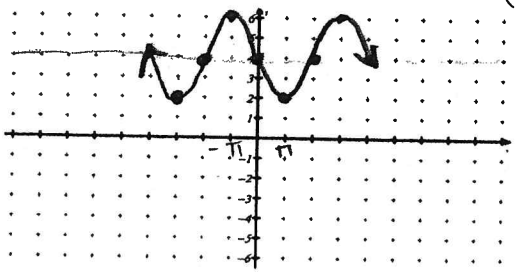
Date: _____ Block:

1. Graph the function: $y = 3\sin(2x - \pi) + 1$



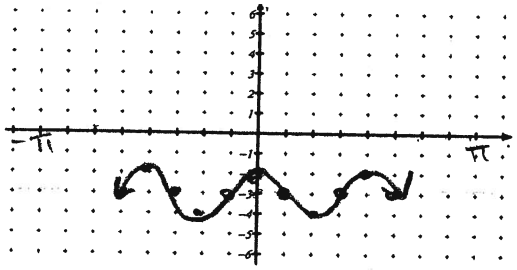
Amplitude: 3
Period: π
Unit: $\pi/4$
Phase Shift: $\frac{\pi}{2}$
Vertical Shift: +1
Domain: $(-\infty, \infty)$
Range: $[-2, 4]$

2. Graph the function: $f(x) = -2\cos\left(\frac{x}{2} + \frac{3\pi}{2}\right) + 4$



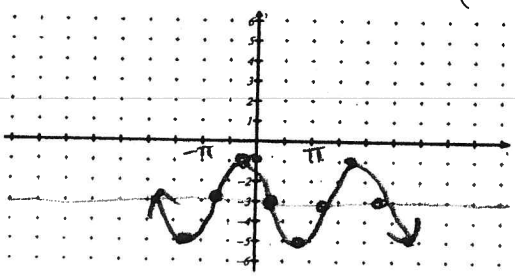
Amplitude: 2
Period: 4π
Unit: π
Phase Shift: -3π
Vertical Shift: +4
Domain: $(-\infty, \infty)$
Range: $[2, 6]$

3. Graph the function: $k(b) = \cos(4b) - 3$



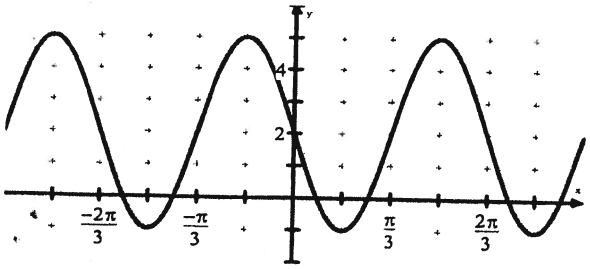
Amplitude: 1
Period: $\pi/2$
Unit: $\pi/8$
Phase Shift: 0
Vertical Shift: -3
Domain: $(-\infty, \infty)$
Range: $[-4, -2]$

4. Graph the function: $y = -2\sin\left(x - \frac{\pi}{4}\right) - 3$



Amplitude: 2
Period: 2π
Unit: $\pi/2$
Phase Shift: $\frac{\pi}{4}$
Vertical Shift: -3
Domain: $(-\infty, \infty)$
Range: [ ]

5. Write three equations for the graph:

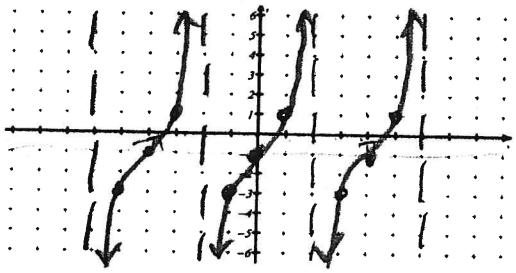


Station Three: Tangent and Cotangent

Name _____

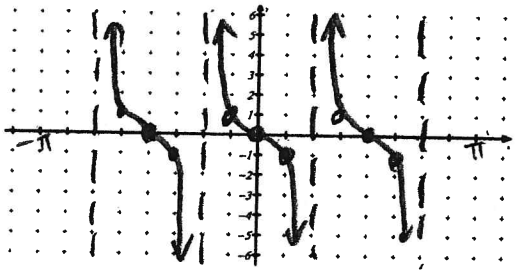
Date: _____ Block:

1. Graph the function: $y = 2\tan(x - \pi) - 1$



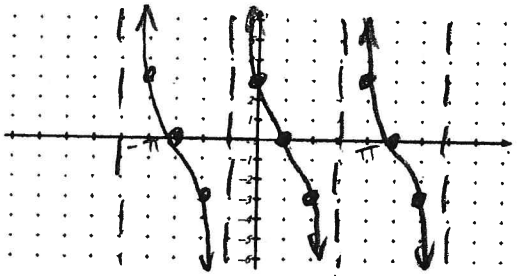
Amplitude: 2
Period: π
Unit: $\pi/4$
Phase Shift: π
Vertical Shift: -1
Domain: $x \neq \frac{\pi}{2} + \pi k$
Range: $(-\infty, \infty)$

2. Graph the function: $x(t) = -\tan(2x + 2\pi)$



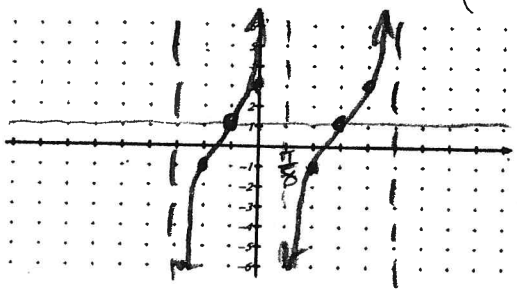
Amplitude: 1
Period: $\pi/2$
Unit: $\pi/8$
Phase Shift: $-\pi$
Vertical Shift: 0
Domain: $x \neq \frac{\pi}{4} + \frac{\pi}{2}k$
Range: $(-\infty, \infty)$

3. Graph the function: $y = 3\cot\left(x - \frac{3\pi}{4}\right) + 2$



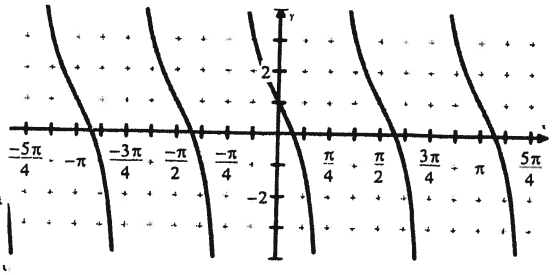
Amplitude: 3
Period: π
Unit: $\pi/4$
Phase Shift: $+\frac{3\pi}{4}$
Vertical Shift: 0
Domain: $x \neq \frac{3\pi}{4} + \pi k$
Range: $(-\infty, \infty)$

4. Graph the function: $y = -2\cot\left(2x - \frac{\pi}{4}\right) + 1$



Amplitude: 2
Period: $\pi/2$
Unit: $\pi/8$
Phase Shift: $\frac{\pi}{8}$
Vertical Shift: $+1$
Domain: _____
Range: $(-\infty, \infty)$

5. Write three equations for the graph:

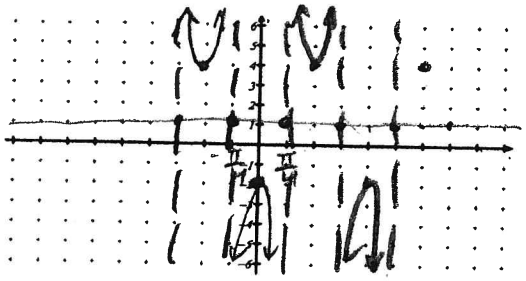


Station Five: Cosecant and Secant

Name _____

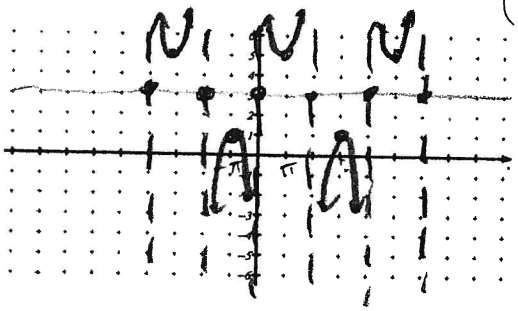
Date: _____ Block:

1. Graph the function: $y = 3\sec(2x - 3\pi) + 1$



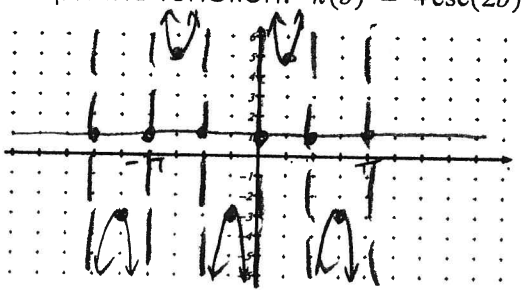
Amplitude: 3
Period: π
Unit: $\pi/4$
Phase Shift: $\frac{3\pi}{2}$
Vertical Shift: $+1$
Domain: $x \neq \frac{\pi}{4} + \frac{\pi}{2}k$
Range: $(-\infty, -2] \cup [4, \infty)$

2. Graph the function: $f(\theta) = -2\csc\left(\frac{\theta}{2} + \pi\right) + 3$



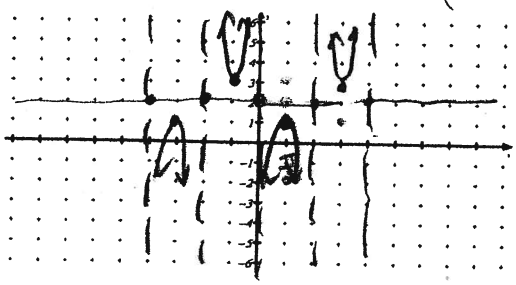
Amplitude: 2
Period: 4π
Unit: π
Phase Shift: -2π
Vertical Shift: $+3$
Domain: $x \neq 2\pi k$
Range: $(-\infty, 1] \cup [5, \infty)$

3. Graph the function: $k(b) = 4\csc(2b) + 1$



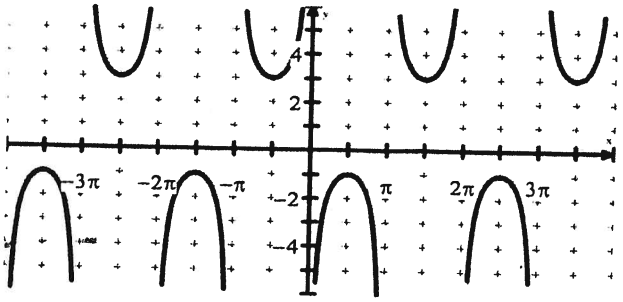
Amplitude: 4
Period: π
Unit: $\pi/4$
Phase Shift: 0
Vertical Shift: $+1$
Domain: $x \neq \pi/2k$
Range: $(-\infty, -3] \cup [5, \infty)$

4. Graph the function: $y = -\sec\left(x - \frac{\pi}{2}\right) + 2$



Amplitude: 1
Period: 2π
Unit: $\pi/2$
Phase Shift: $\frac{\pi}{2}$
Vertical Shift: $+2$
Domain: $x \neq \pi k$
Range: $(-\infty, 1] \cup [3, \infty)$

5. Write three equations for the graph:



pos up
neg down

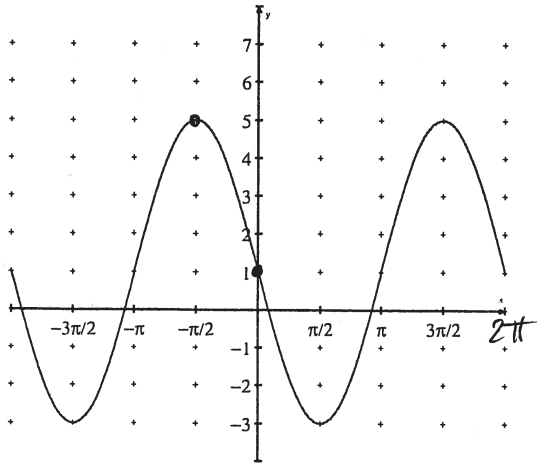
phase shift = c
$(x-c)$

Graphing Review

Name_____

Date: _____ Block: _____

Write an equation that has the following graph.



Per $= 2\pi$

unit $= \frac{\pi}{2}$

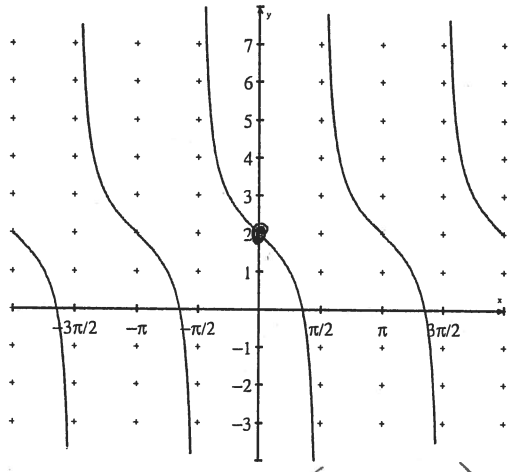
$\frac{2\pi}{b} = \frac{2\pi}{1}$

$y = -4\sin(1x-0)+1$

$1x-c=0$

$0-c=0$

$c=0$



Per $= \pi$

unit $= \frac{\pi}{2}$

$\frac{\pi}{b} = \frac{\pi}{1}$

$x-c=0$

$0-c=0$

$c=0$

$y = -\tan(1x-0)+2$

$y = \cot\left(1x-\frac{\pi}{2}\right)+2$

$y = 4\cos\left(x+\frac{\pi}{2}\right)+1$

$x-c=0$

$-\frac{\pi}{2}-c=0$

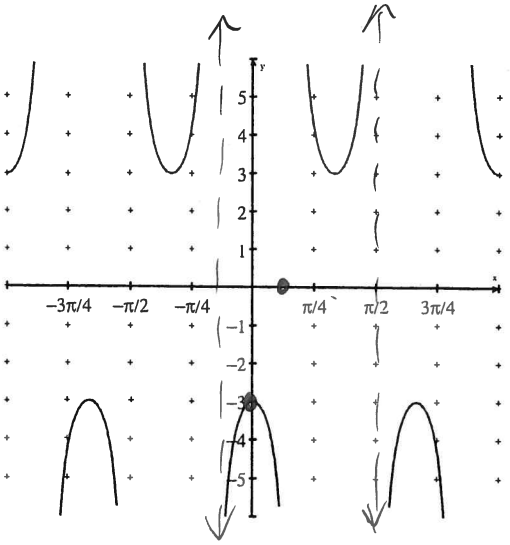
Per: $\frac{\pi}{2}+\frac{\pi}{8}=\frac{5\pi}{8}$

unit: $\frac{5\pi}{32}$

$\frac{2\pi}{b}=\frac{5\pi}{8}$

$5\pi b = 16\pi$

$b=\frac{16}{5}$



$y = -3\cos\left(\frac{16}{5}x-0\right)+0$

$y = 3\sin\left(\frac{16}{5}x-\frac{2\pi}{5}\right)+0$

$\frac{16}{5}x-c=0$

$\frac{16}{5}\left(\frac{\pi}{8}\right)=c$

$\frac{2\pi}{5}=c$