

# Graphing Trig #2

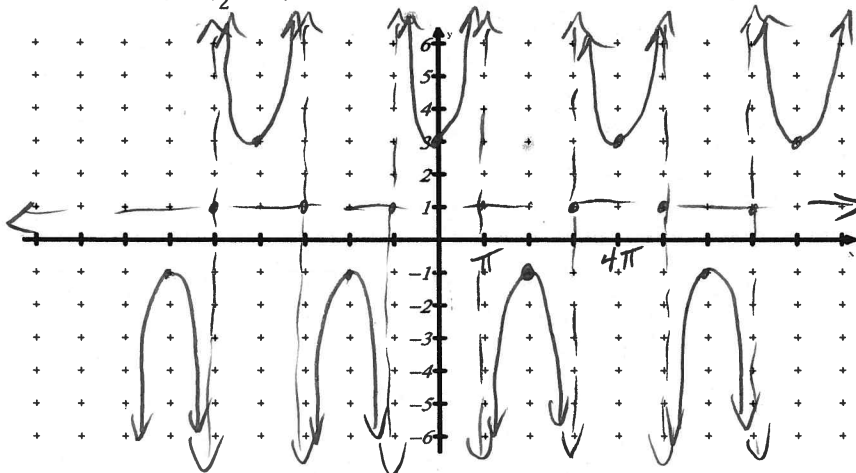
Name: \_\_\_\_\_

Date: \_\_\_\_\_ Block: \_\_\_\_\_

Graph the following trig functions. Be sure to label the x-axis.

cos

1.  $y = -2\sec\left(\frac{\theta}{2} - \pi\right) + 1$        $-2\cos\left(\frac{1}{2}\theta - \pi\right) + 1$



Amplitude: 2

Period:  $\frac{2\pi}{1/2} = 4\pi$

Unit:  $\pi$

Phase Shift:  $2\pi$

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

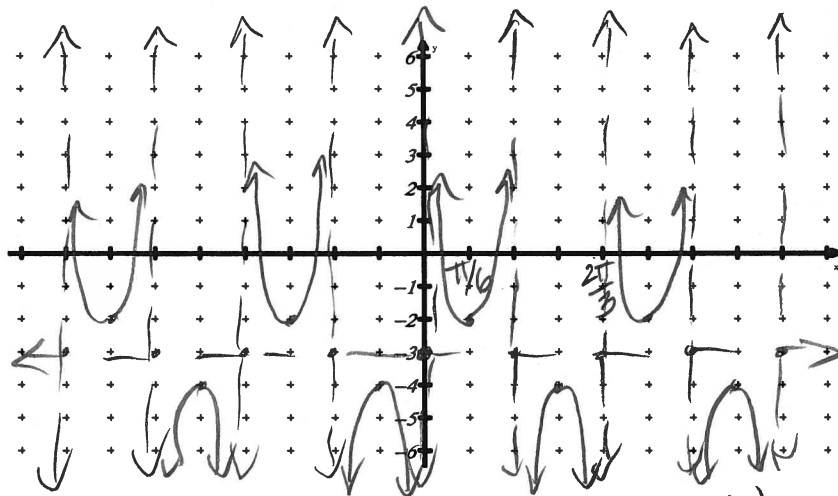
Vertical Shift: 1

Domain:  $x \neq \pi + 2\pi k$

Range:  $(-\infty, -1] \cup [1, \infty)$

sin

2.  $y = \csc(3\theta + 4\pi) - 3$        $\sin(3\theta + 4\pi) - 3$



Amplitude: 1

Period:  $2\pi/3$

Unit:  $\pi/6$

Phase Shift:  $-4\pi/3$

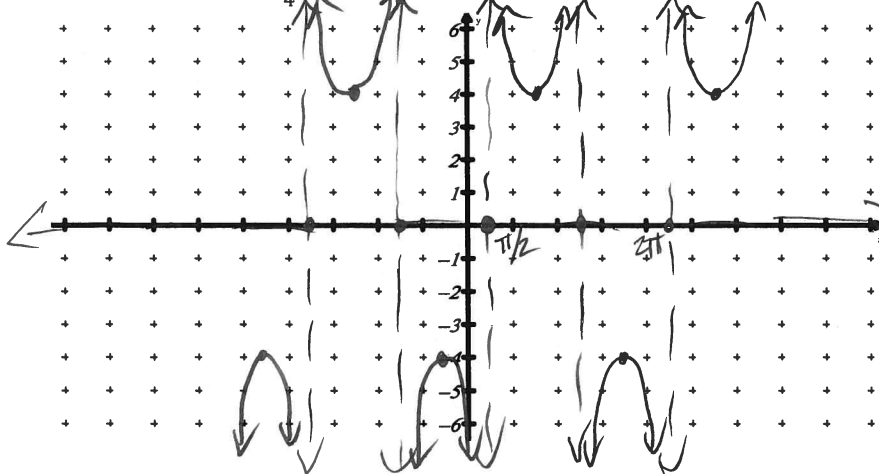
Vertical Shift: -3

Domain:  $x \neq 0 + \pi/3 k$

Range:  $(-\infty, -4] \cup [-2, \infty)$

sin

3.  $y = 4\csc\left(x - \frac{\pi}{4}\right)$        $4\sin\left(x - \frac{\pi}{4}\right)$



Amplitude: 4

Period:  $2\pi$

Unit:  $\frac{2\pi}{4} = \frac{\pi}{2}$

Phase Shift:  $\pi/4$

Vertical Shift: 0

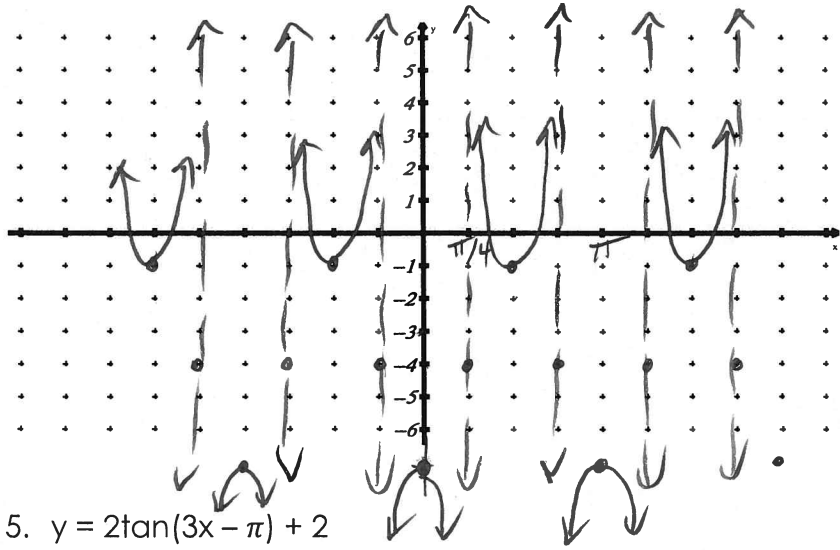
Domain:  $x \neq \pi/4 + \pi k$

Range:  $(-\infty, -4] \cup [4, \infty)$

cos

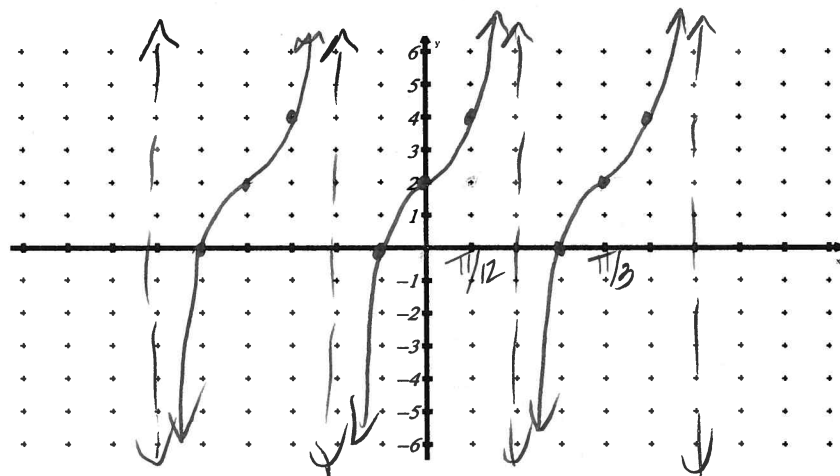
4.  $y = -3 \sec(2x) - 4$

$-3 \cos(2x) - 4$



- Amplitude: 3
- Period:  $\frac{2\pi}{2} = \pi$
- Unit:  $\frac{\pi}{4}$
- Phase Shift: 0
- Vertical Shift:  $\frac{-4}{}$
- Domain:  $x \neq \frac{\pi}{4} + \frac{\pi}{2}k$
- Range:  $(-\infty, -7] \cup [-1, \infty)$

5.  $y = 2 \tan(3x - \pi) + 2$

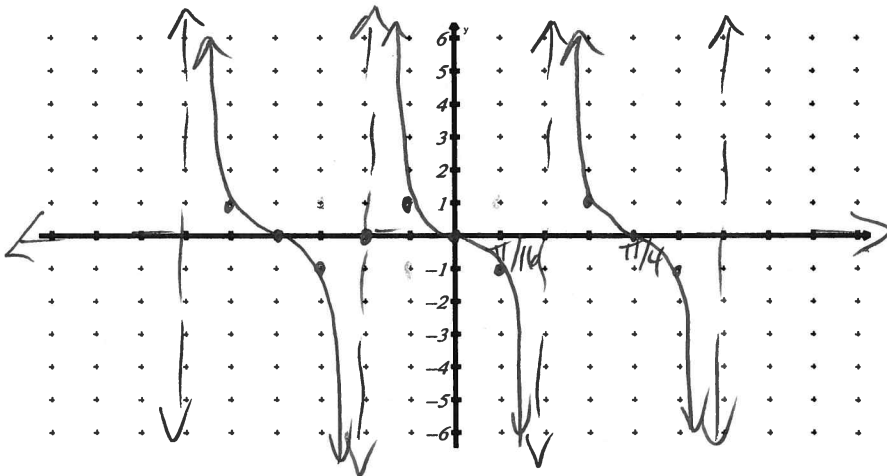


- Amplitude: 2
- Period:  $\frac{\pi}{3}$
- Unit:  $\frac{\pi}{12}$
- Phase Shift:  $\frac{\pi}{3}$
- Vertical Shift:  $\frac{2}{}$
- Domain:  $x \neq \frac{\pi}{6} + \frac{\pi}{3}k$
- Range:  $\mathbb{R}$

tan

6.  $y = -\cot(4x + \frac{\pi}{2})$

$-\tan(4x + \frac{\pi}{2})$



- Amplitude: 1
- Period:  $\frac{\pi}{4}$
- Unit:  $\frac{\pi}{16}$
- Phase Shift:  $\frac{-\pi/2}{4} = -\frac{\pi}{8}$
- Vertical Shift: 0
- Domain:  $x \neq \frac{\pi}{8} + \frac{\pi}{4}k$
- Range:  $\mathbb{R}$