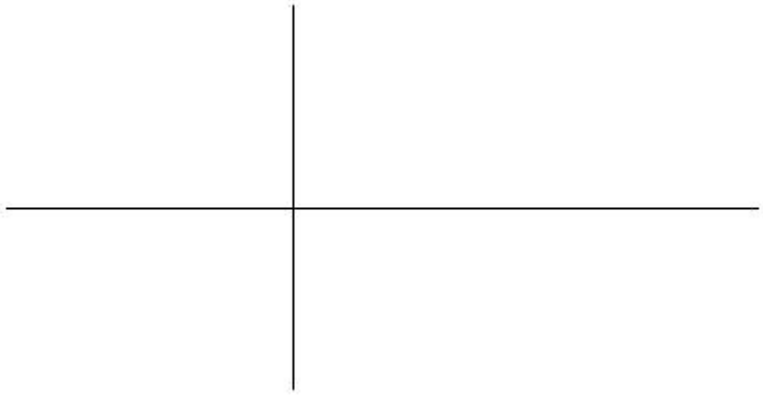
Trigonometric Functions Study Guide

SINE FUNCTIONS

Standard Form: $y = a\sin(bx - c) + d$

Parent Function $y = \sin x$



Amplitude:

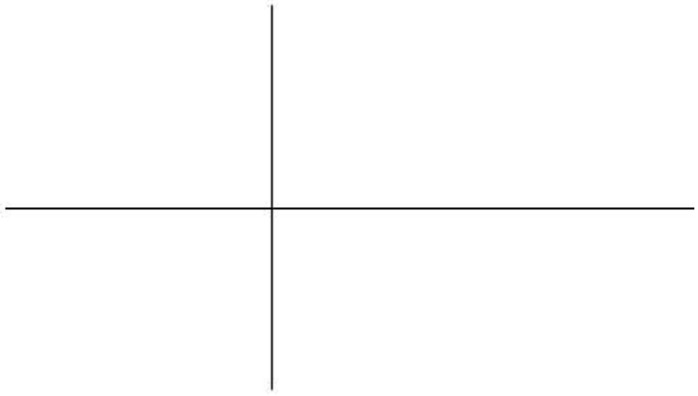
Period:

Phase Shift:

Initial Interval:

Practice Problems

$y = 2\sin\left(x - \frac{\pi}{4}\right)$



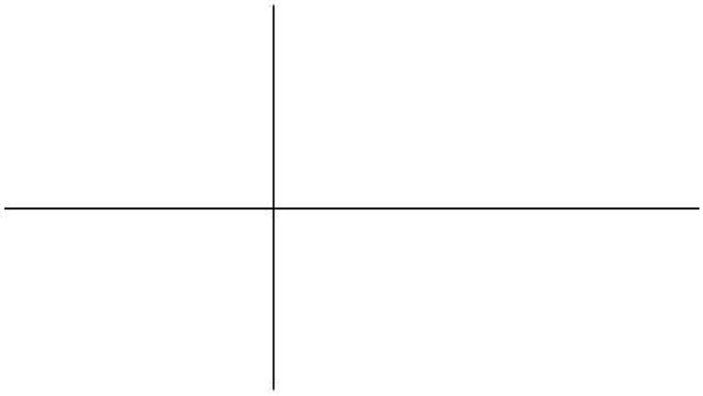
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = \sin(3x - \pi)$



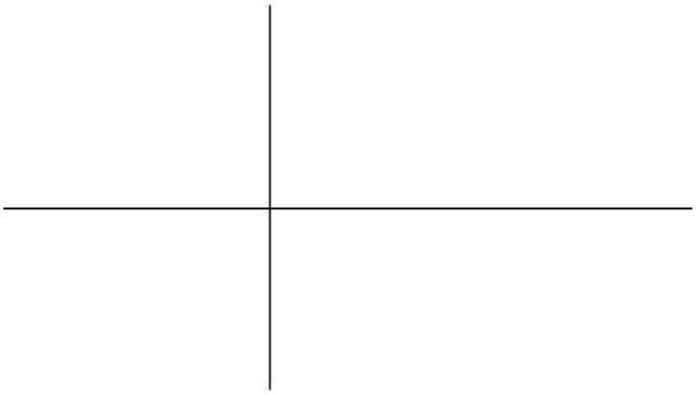
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = -3\sin(2x)$



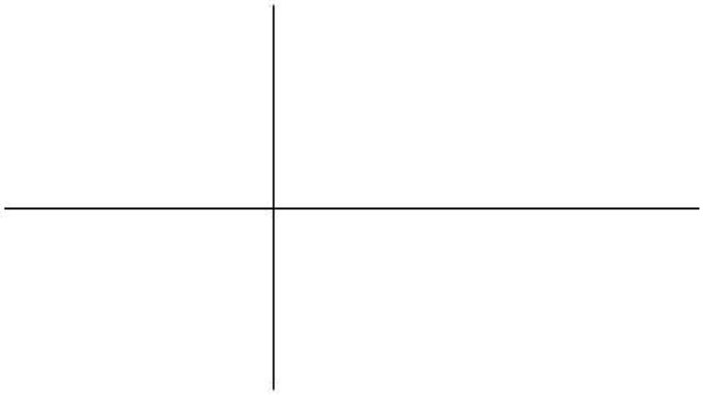
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = \sin(x - \pi) + 3$



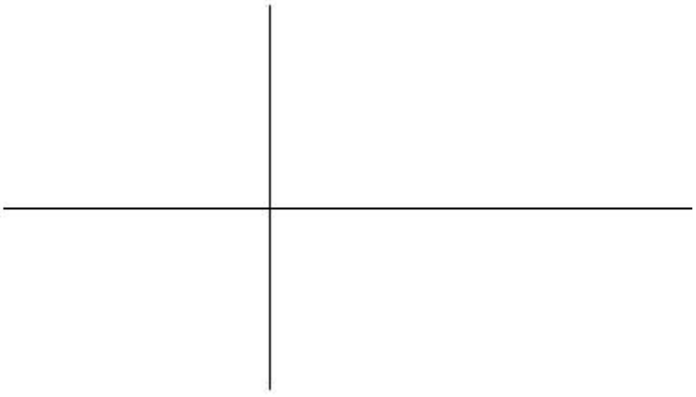
Amplitude:

Period:

Phase Shift:

Initial Interval:

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



Amplitude:

Period:

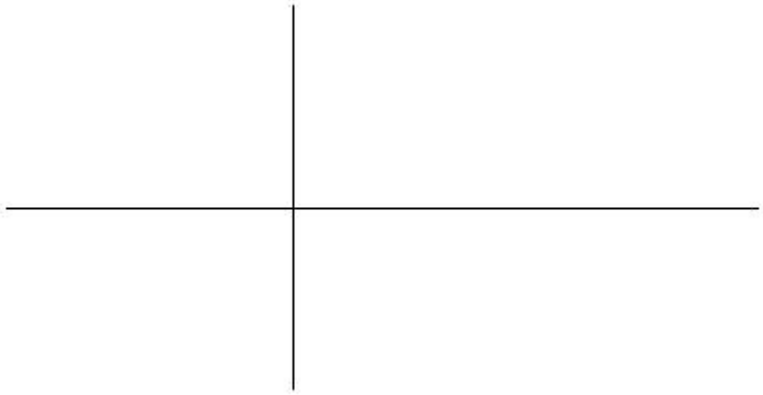
Phase Shift:

Initial Interval:

COSINE FUNCTIONS

Standard Form: $y = a\cos(bx - c) + d$

Parent Function $y = \cos x$



Amplitude:

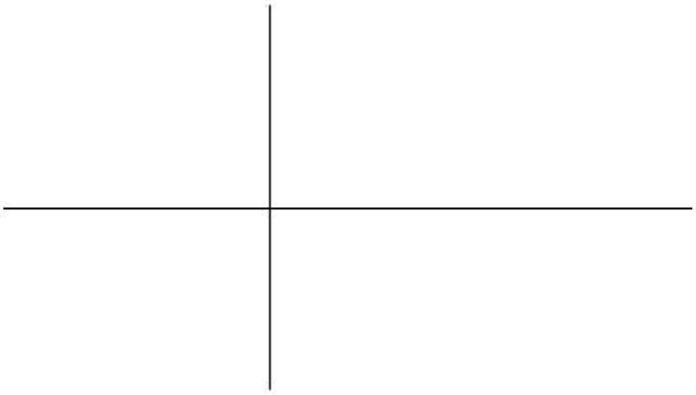
Period:

Phase Shift:

Initial Interval:

Practice Problems

$$y = 3\cos\left(x - \frac{\pi}{2}\right)$$



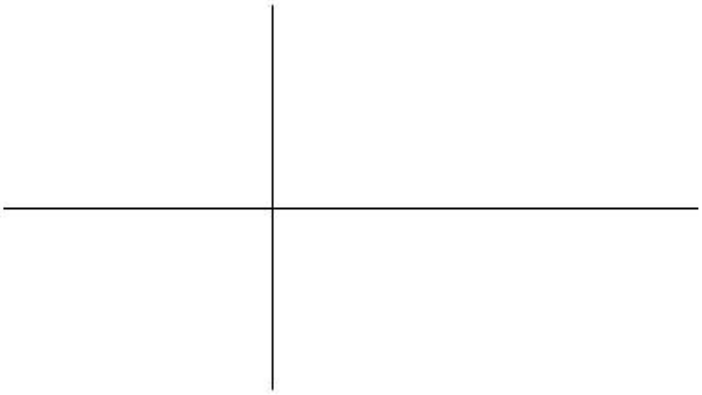
Amplitude:

Period:

Phase Shift:

Initial Interval:

$$y = -2\cos\left(\frac{x}{4} - \frac{\pi}{3}\right)$$



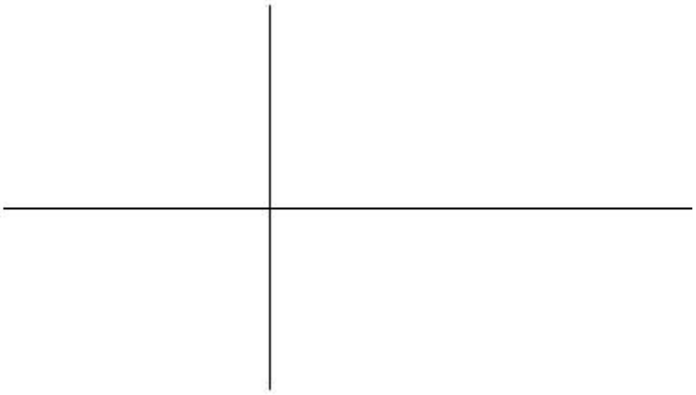
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = \cos(\pi x) + 1$



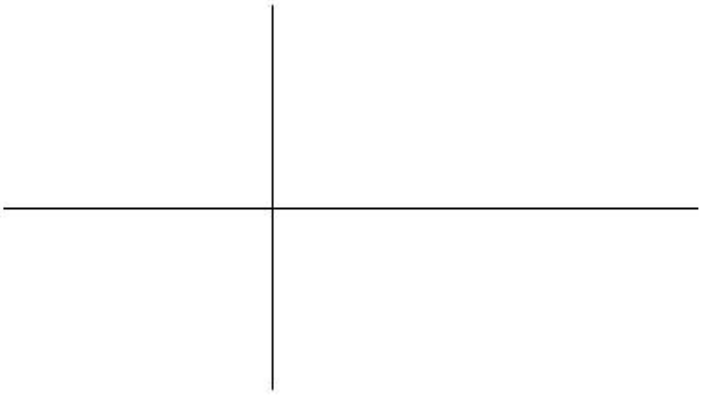
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = -\cos(2x - \pi) - 2$



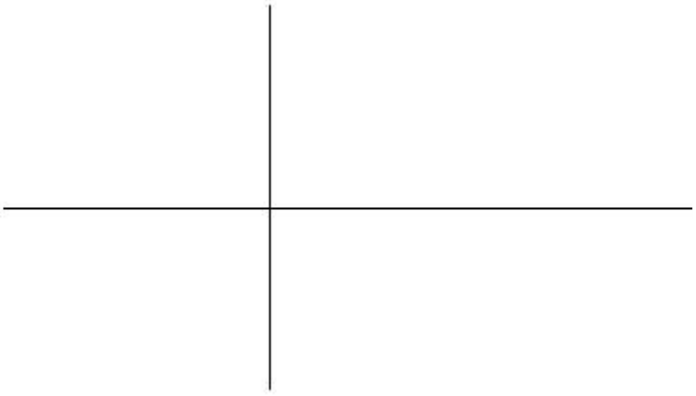
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = \cos\left(\frac{x}{2} + \frac{\pi}{3}\right)$



Amplitude:

Period:

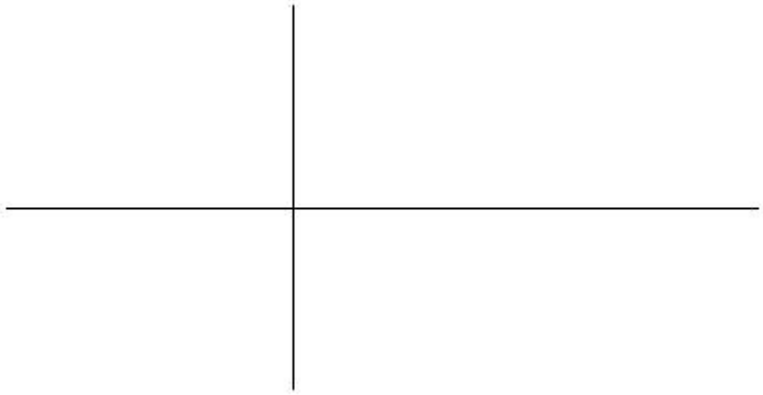
Phase Shift:

Initial Interval:

COSECANT FUNCTIONS

Standard Form: $y = a\csc\left(bx - c\right) + d$

Parent Function $y = \csc x$



Amplitude:

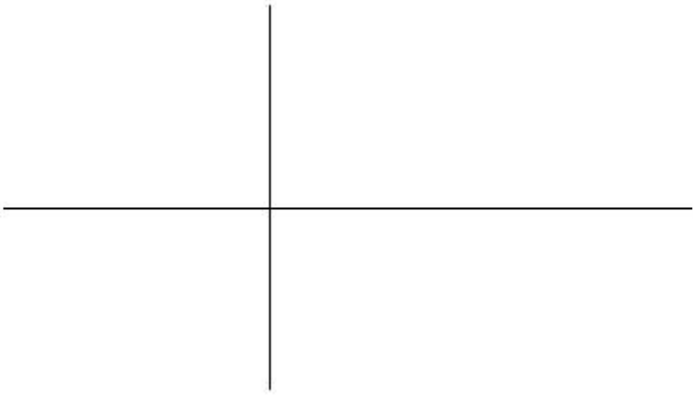
Period:

Phase Shift:

Initial Interval:

Practice Problems

$$y = \csc\left(\frac{x}{2} - \pi\right)$$



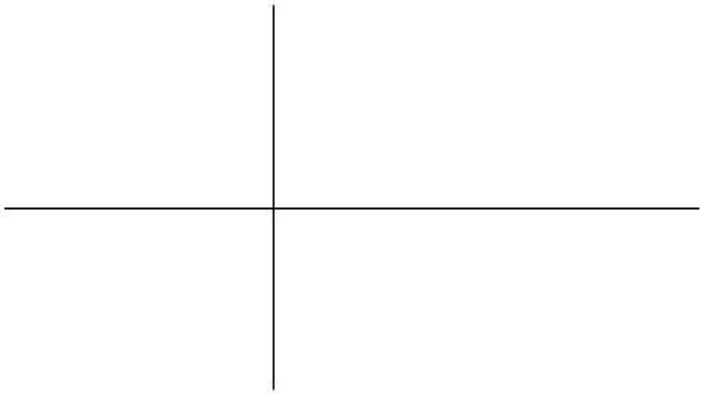
Amplitude:

Period:

Phase Shift:

Initial Interval:

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



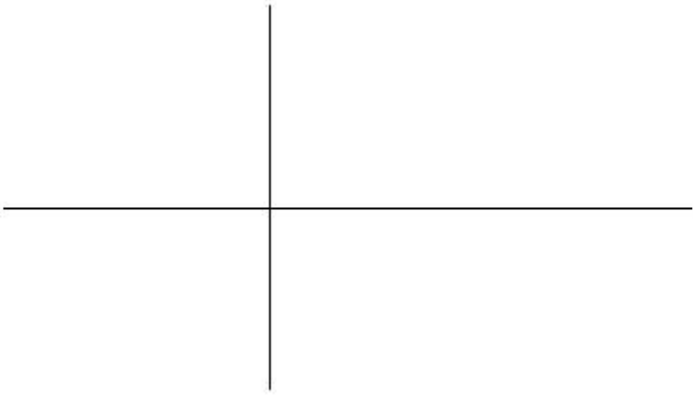
Amplitude:

Period:

Phase Shift:

Initial Interval:

$$y = 2\csc(\pi - 2x)$$



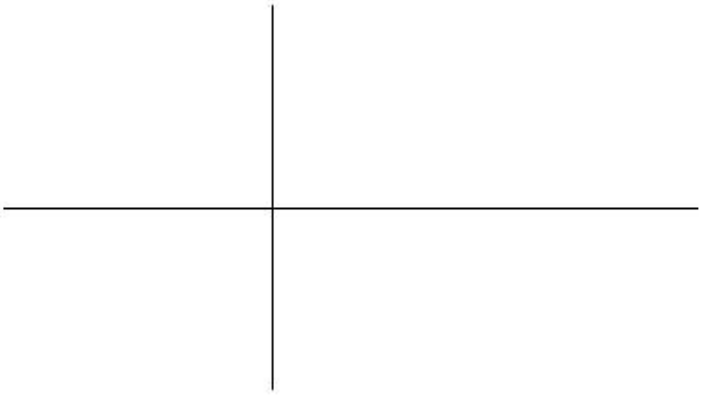
Amplitude:

Period:

Phase Shift:

Initial Interval:

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



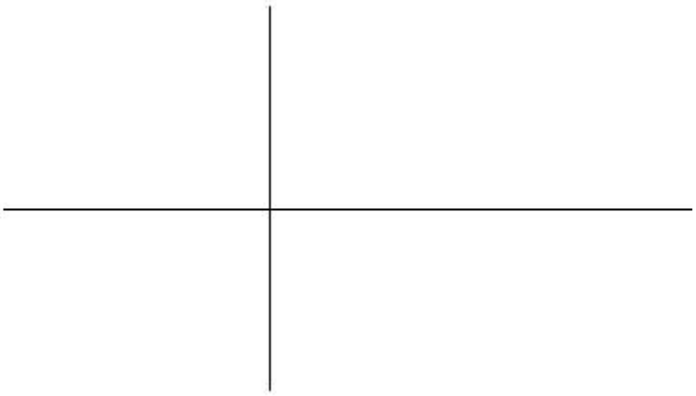
Amplitude:

Period:

Phase Shift:

Initial Interval:

$$y = \csc\left(\frac{2x}{3}\right)$$



Amplitude:

Period:

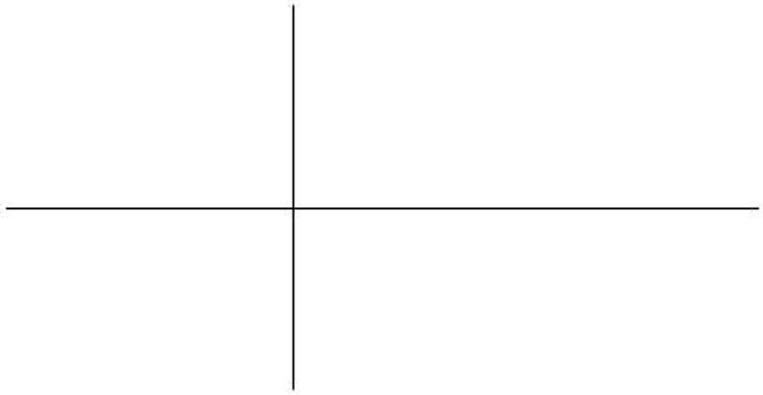
Phase Shift:

Initial Interval:

SECANT FUNCTIONS

Standard Form: $y = a\sec\left(bx - c\right) + d$

Parent Function $y = \sec x$



Amplitude:

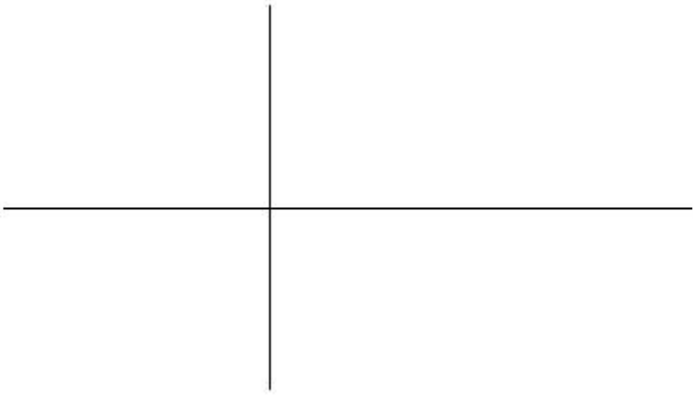
Period:

Phase Shift:

Initial Interval:

Practice Problems

$y = \sec\left(3x - \pi\right)$



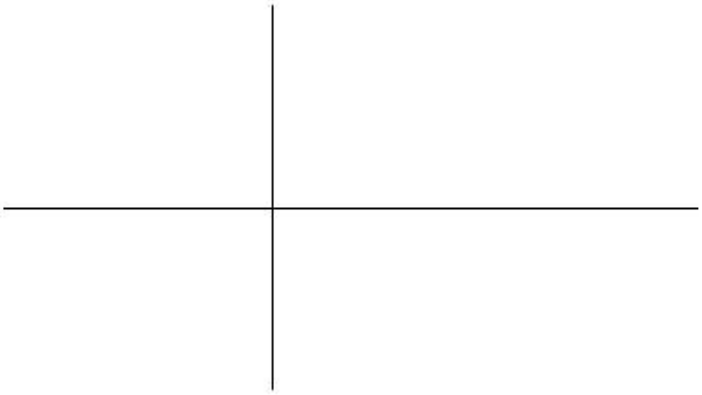
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = -2\sec\left(x - \frac{\pi}{3}\right)$



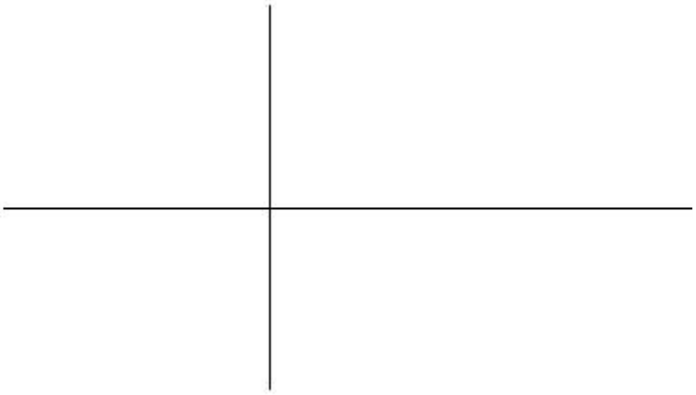
Amplitude:

Period:

Phase Shift:

Initial Interval:

$$y = 3\sec\left(x + \frac{\pi}{6}\right)$$



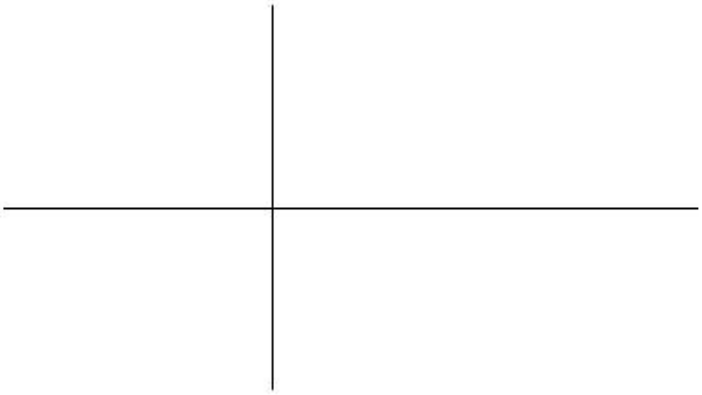
Amplitude:

Period:

Phase Shift:

Initial Interval:

$$y = -2\sec\left(3x - \frac{\pi}{2}\right) + 1$$



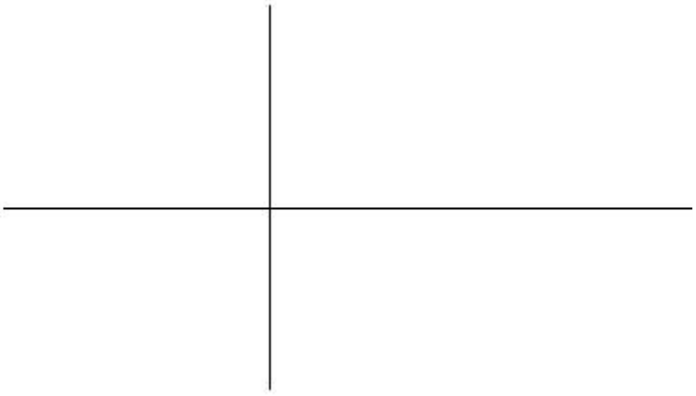
Amplitude:

Period:

Phase Shift:

Initial Interval:

$$y = \sec(2\pi x)$$



Amplitude:

Period:

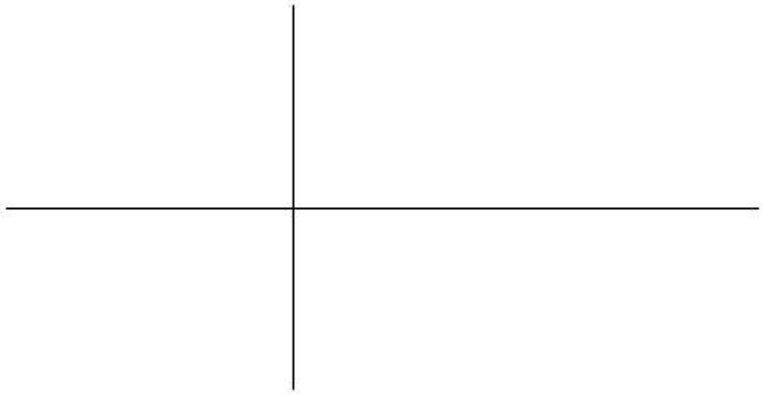
Phase Shift:

Initial Interval:

TANGENT FUNCTIONS

Standard Form: $y = a\tan\left(bx - c\right) + d$

Parent Function $y = \tan x$



Amplitude:

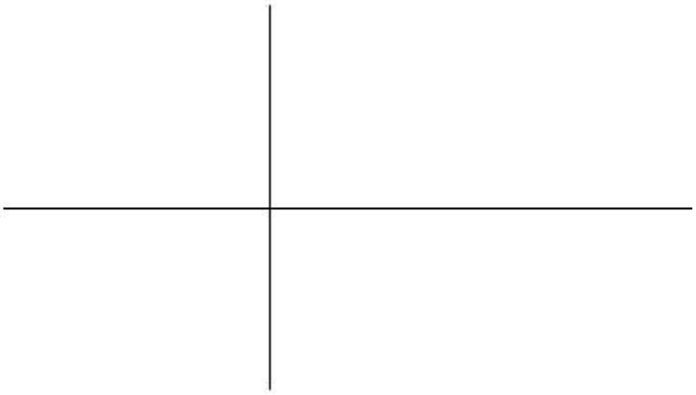
Period:

Phase Shift:

Initial Interval:

Practice Problems

$y = \tan\left(\frac{x}{3}\right)$



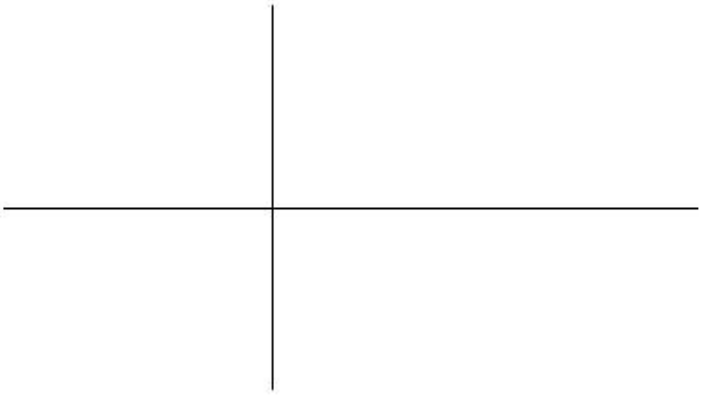
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = \tan\left(2x - \frac{\pi}{2}\right)$



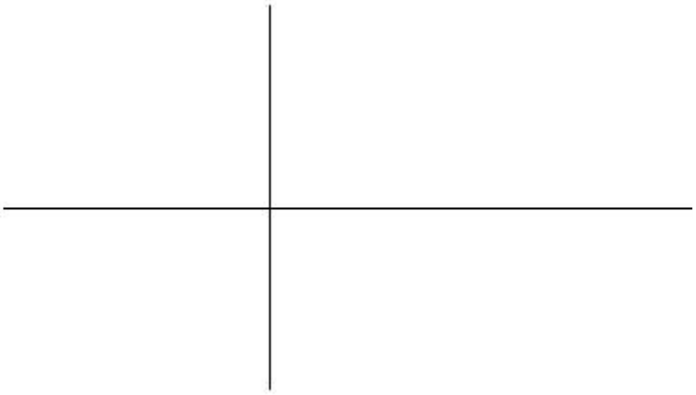
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = -2\tan\left(x + \pi\right)$



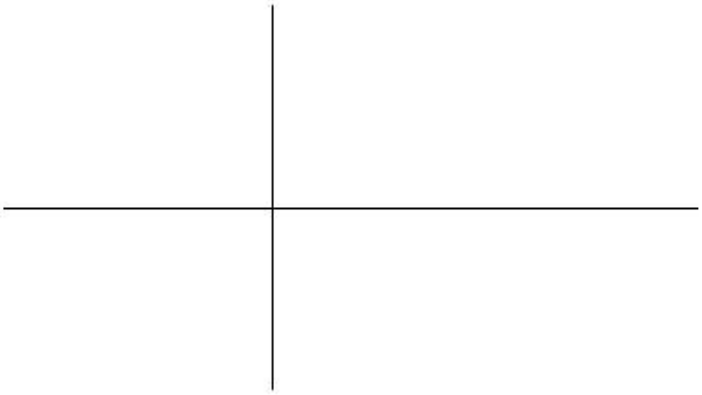
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = -\tan\left(\frac{3x}{2}\right)$



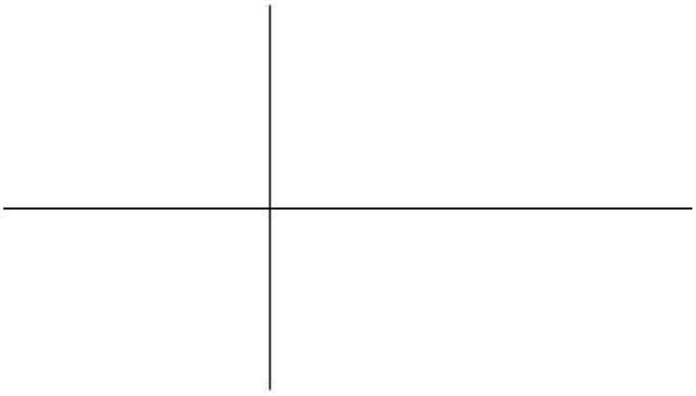
Amplitude:

Period:

Phase Shift:

Initial Interval:

$y = \tan\left(x + \pi\right)$



Amplitude:

Period:

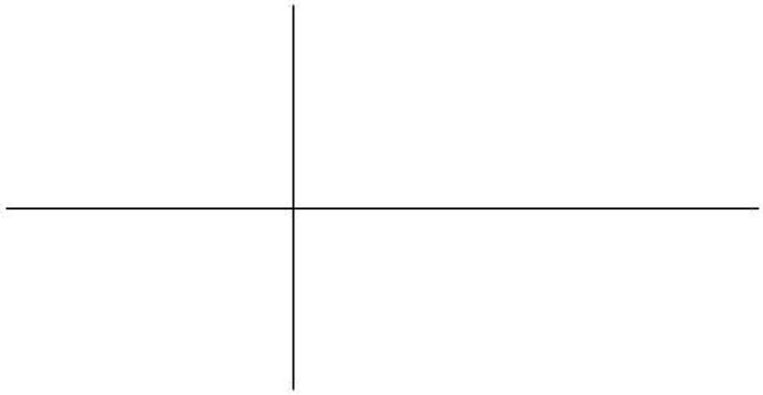
Phase Shift:

Initial Interval:

COTANGENT FUNCTIONS

Standard Form: $y = a\cot(bx - c) + d$

Parent Function $y = \cot x$



Amplitude:

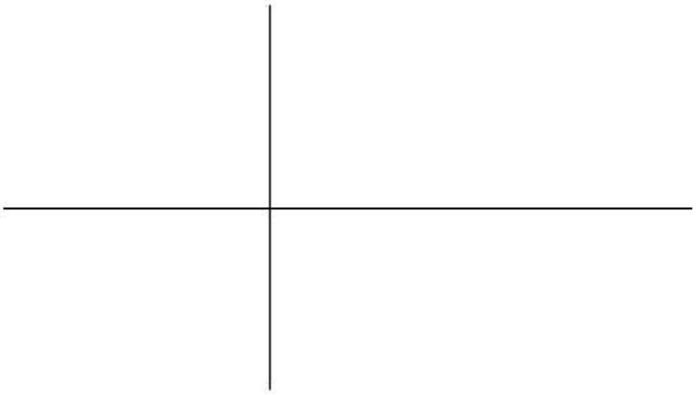
Period:

Phase Shift:

Initial Interval:

Practice Problems

$y = \cot\left(\frac{x}{3}\right)$



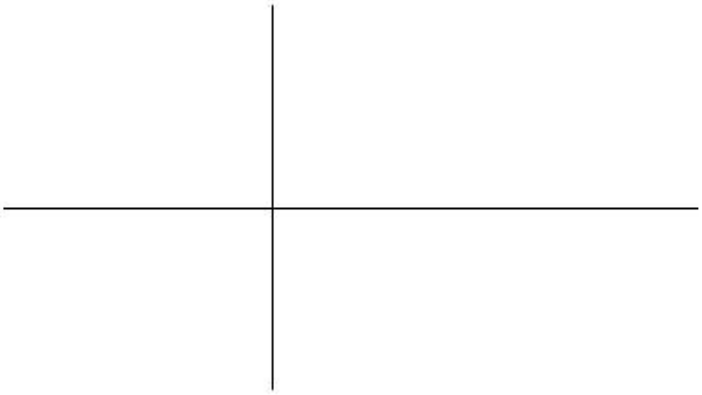
Amplitude:

Period:

Phase Shift:

Initial Interval:

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



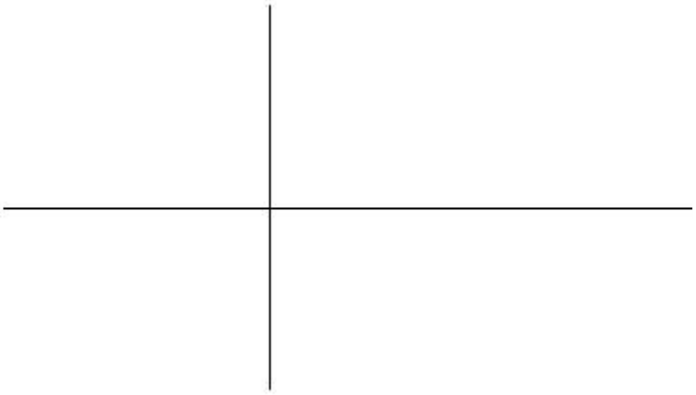
Amplitude:

Period:

Phase Shift:

Initial Interval:

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



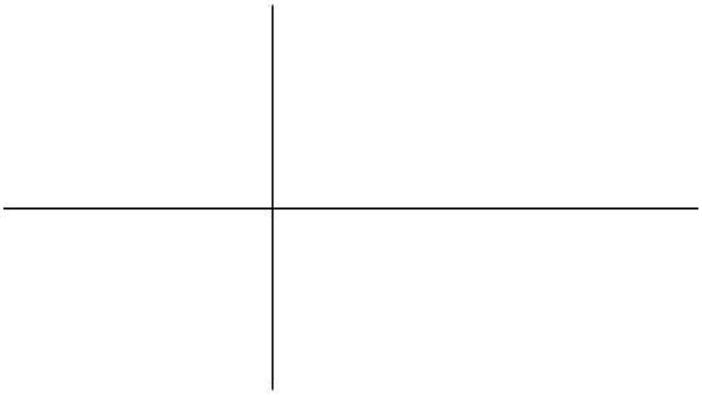
Amplitude:

Period:

Phase Shift:

Initial Interval:

$$y = \cot\left(\frac{3x}{2} - \pi\right)$$



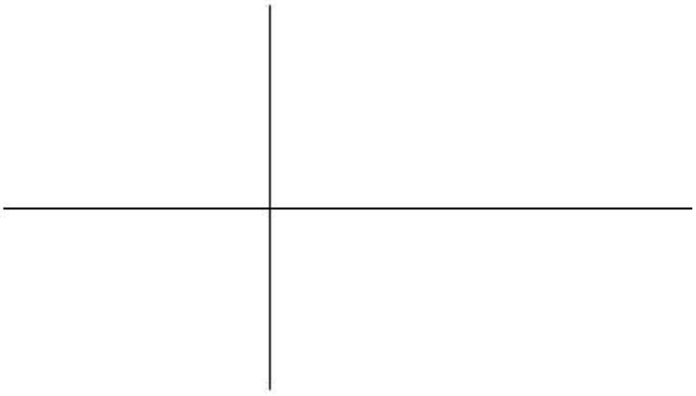
Amplitude:

Period:

Phase Shift:

Initial Interval:

$$y = -\cot\left(2x + \pi\right)$$



Amplitude:

Period:

Phase Shift:

Initial Interval: