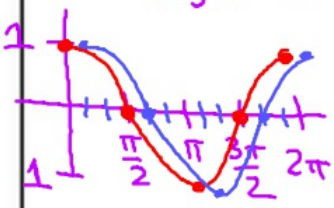
Determine the phase shift for the function and the sketch the graph.

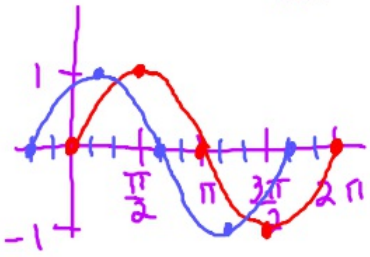
A) $y = \cos\left(x - \frac{\pi}{6}\right)$

right $\pi/6$



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

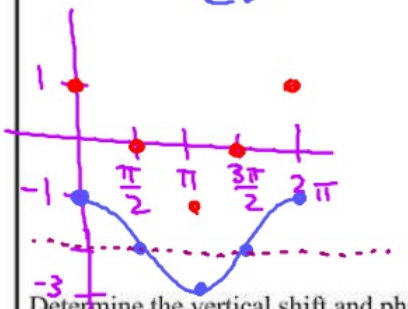
left $\pi/3$



Determine the vertical shift for the function and the sketch the graph.

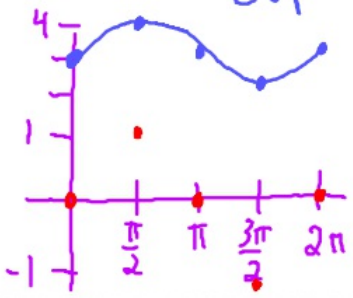
A) $y = \cos x - 2$

down 2



B) $y = \sin x + 3$

up 3

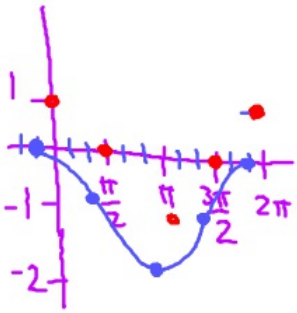


Determine the vertical shift and phase shift of the function and then sketch the graph

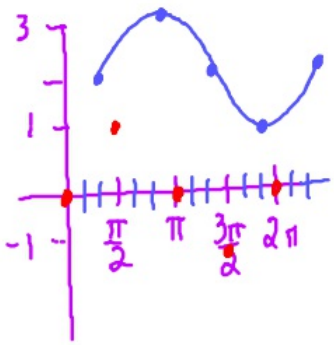
A) $y = \cos\left(x + \frac{\pi}{6}\right) - 1$

down 1

left $\pi/6$



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

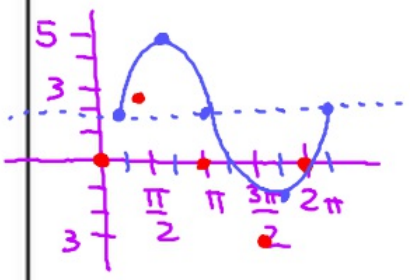


State the Amplitude and period of the sinusoid, and relative to the basic function, the phase shift and vertical translation.

Amp = 2 Period = $\frac{2\pi}{3}$ Down 4 Right $\frac{\pi}{12}$

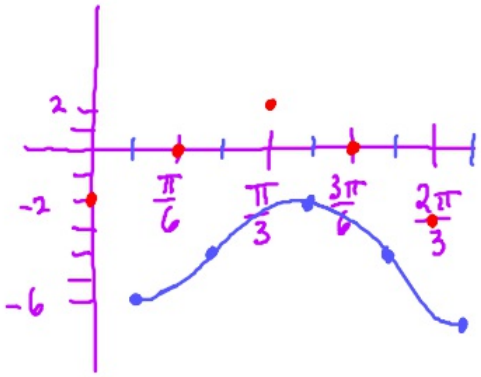
A) $y = 3\sin\left(x - \frac{\pi}{4}\right) + 2$

Amp = 3
Period = 2π
Right $\frac{\pi}{4}$
Up 2



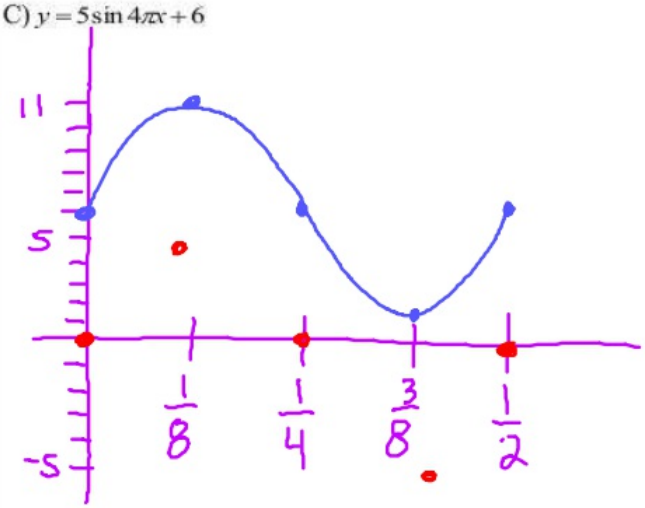
B) $y = -2\cos\left(3x - \frac{\pi}{4}\right) - 4$

$y = -2\cos 3\left(x - \frac{\pi}{12}\right) - \frac{\pi}{4}$



C) $y = 5\sin 4\pi x + 6$

Amp = 5
Period = $\frac{2\pi}{4\pi} = \frac{1}{2}$
up 6



What you'll Learn About

- The graphs of the other 4 trig functions

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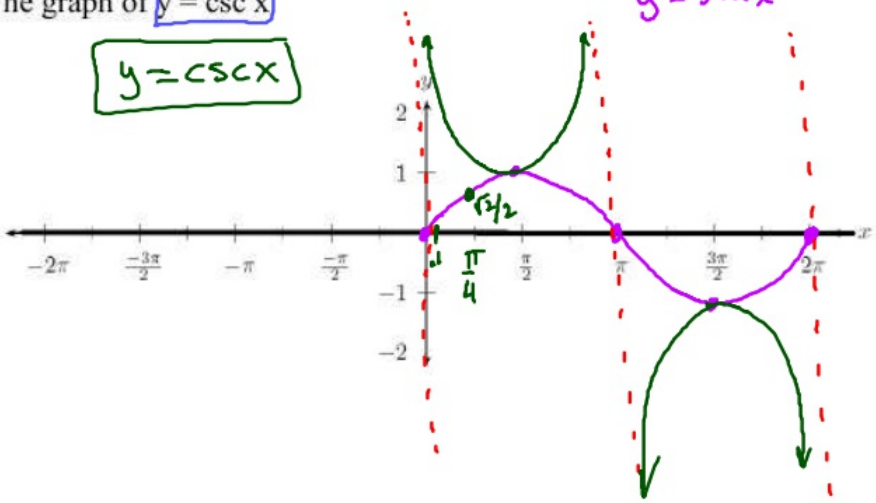
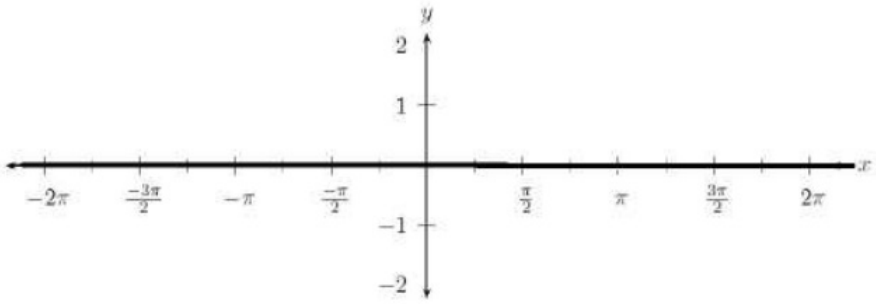
The graph of y = csc x

y = csc x

y = sin x



The graph of y = sec x

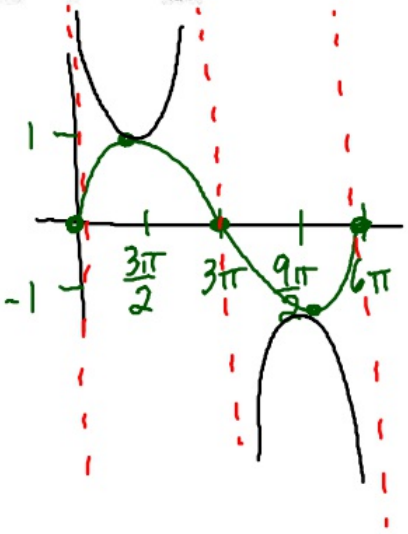


Describe the graph of the function in terms of a basic trigonometric function. Locate the vertical asymptotes and graph 2 periods of the function.

$y = \sin\left(\frac{x}{3}\right)$ ←

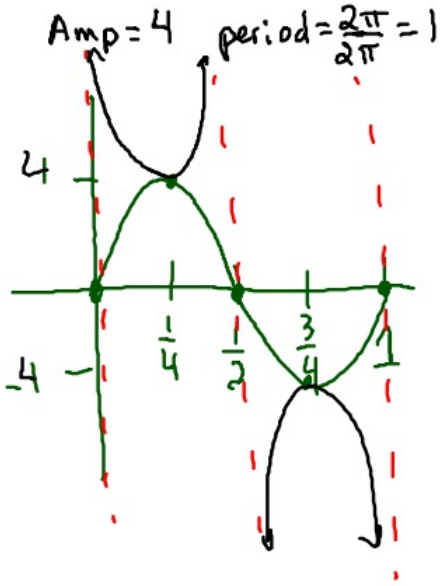
period $= \frac{2\pi}{\left(\frac{1}{3}\right)} = 6\pi$

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



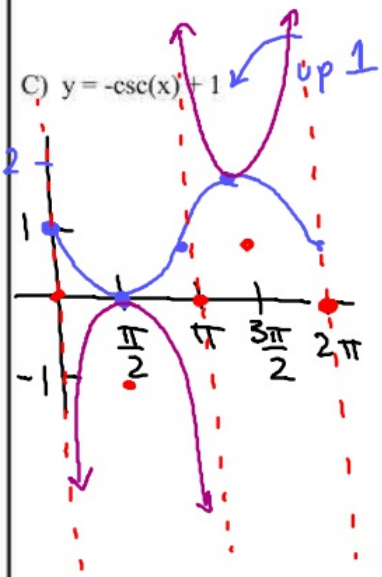
B) $y = 4\csc 2\pi x$

Amp = 4 period $= \frac{2\pi}{2\pi} = 1$



$y = -\sin x + 1$

C) $y = -\csc(x) + 1$ up 1



D. $y = 2\csc\left(\frac{1}{3}x - \pi\right)$

Amp = 2 period $= \frac{2\pi}{\frac{1}{3}} = 6\pi$

$y = 2\csc\frac{1}{3}(x - 3\pi)$

right 3π