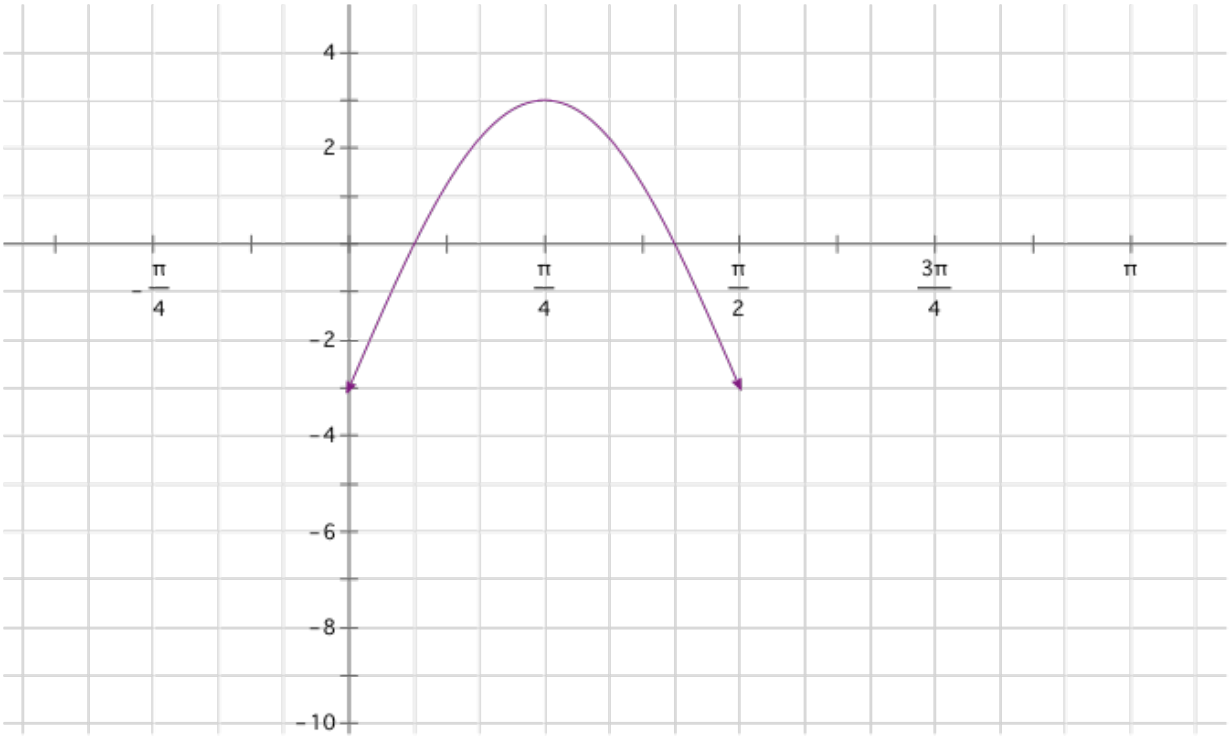
Chapter 12
Board Review

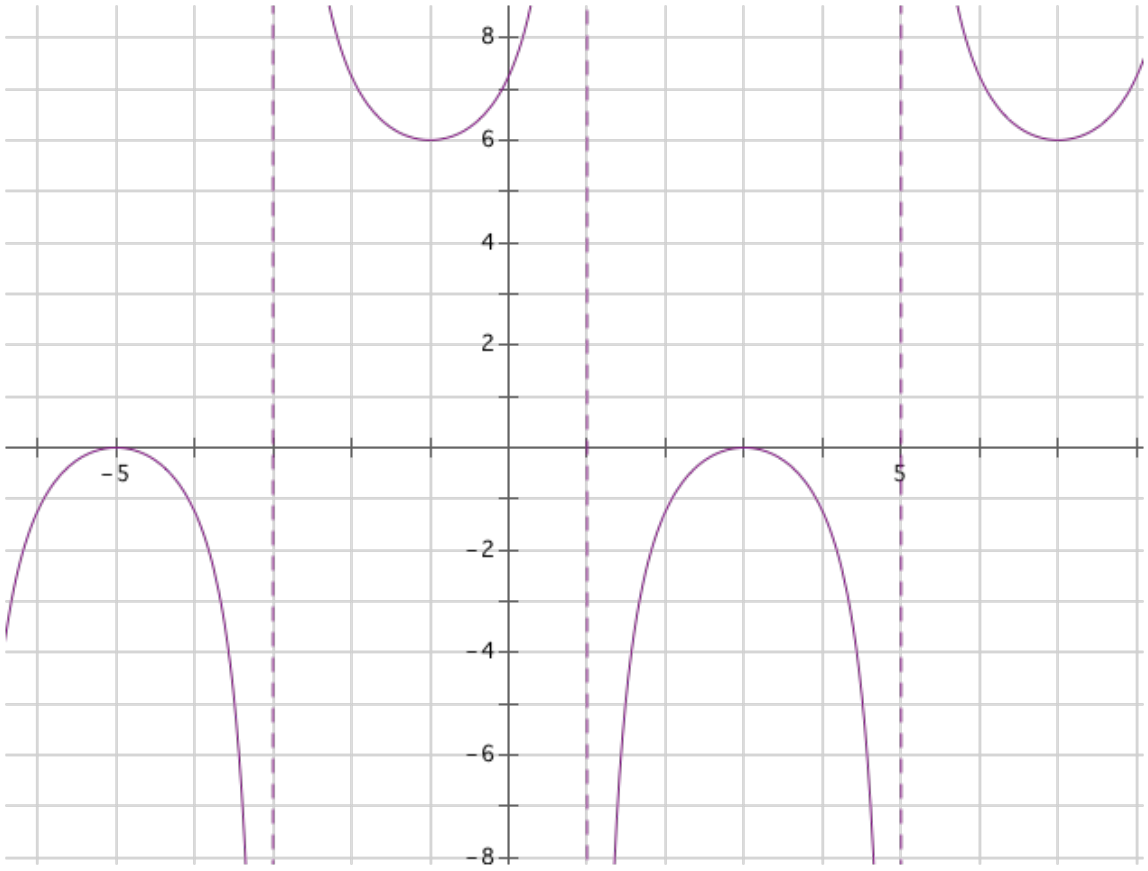
5/4/18

This is a half cycle of a sine wave.



Write two different equations for this curve.

Write an equation for the graph.



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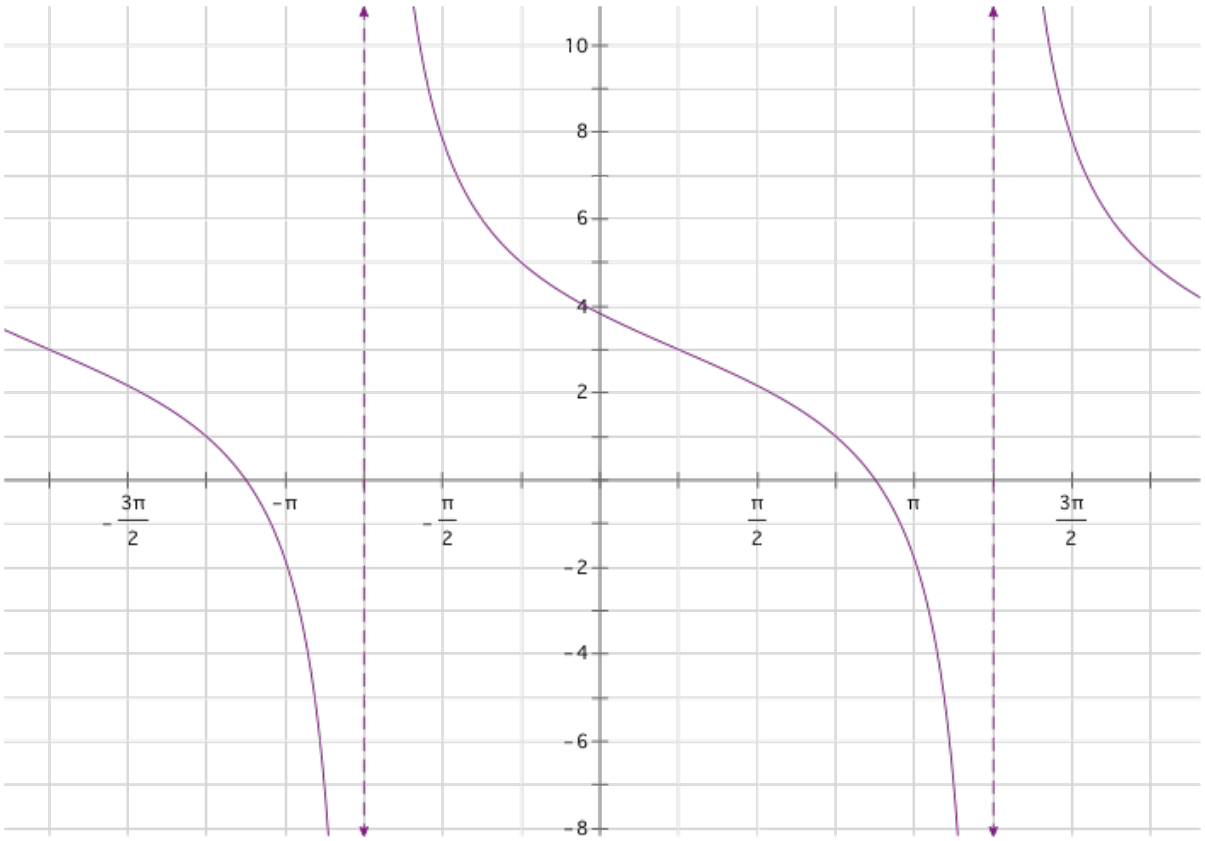


Graph $f(\theta) = -8\cos\left(2\theta + \frac{\pi}{2}\right) + 2$

Graph.

$$f(\theta) = -3\tan\left(\frac{\pi}{4}\theta - \frac{\pi}{2}\right) - 1$$

Evaluate with great speed!

$$\sin\left(\frac{5\pi}{3}\right) \qquad \csc\left(\frac{10\pi}{3}\right) \qquad \tan\left(\frac{3\pi}{2}\right) \qquad \cot(\pi)$$

Evaluate with great speed!

$$Csc^{-1}\left(-\frac{2}{\sqrt{3}}\right) \qquad \text{Cos}^{-1}\left(-\frac{1}{2}\right)$$

$$Tan^{-1}\left(-\sqrt{3}\right) \qquad Sin^{-1}(1)$$

The data describes the average temperature in Antarctica.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Avg. Temp (F)	-18.8	-41.6	-65.2	-71.1	-70.6	-72.4	-75.5	-76	-74.9	-60.0	-39.9	-17.5

Write a sinusoidal equation to approximately model the temperature changes in Antartica.

One complete push-up takes 3 seconds. A student starts the push-up at 20 inches above the ground and finishes the pushup at 3 inches above the ground. Write a cosine/ sine equation modeling this.

Solve. Use a unit circle AND a parent graph to display your solution(s).

$Cos\theta = -\frac{\sqrt{3}}{2}$

$\sec\theta = -2$

$Sin\theta = -.7$

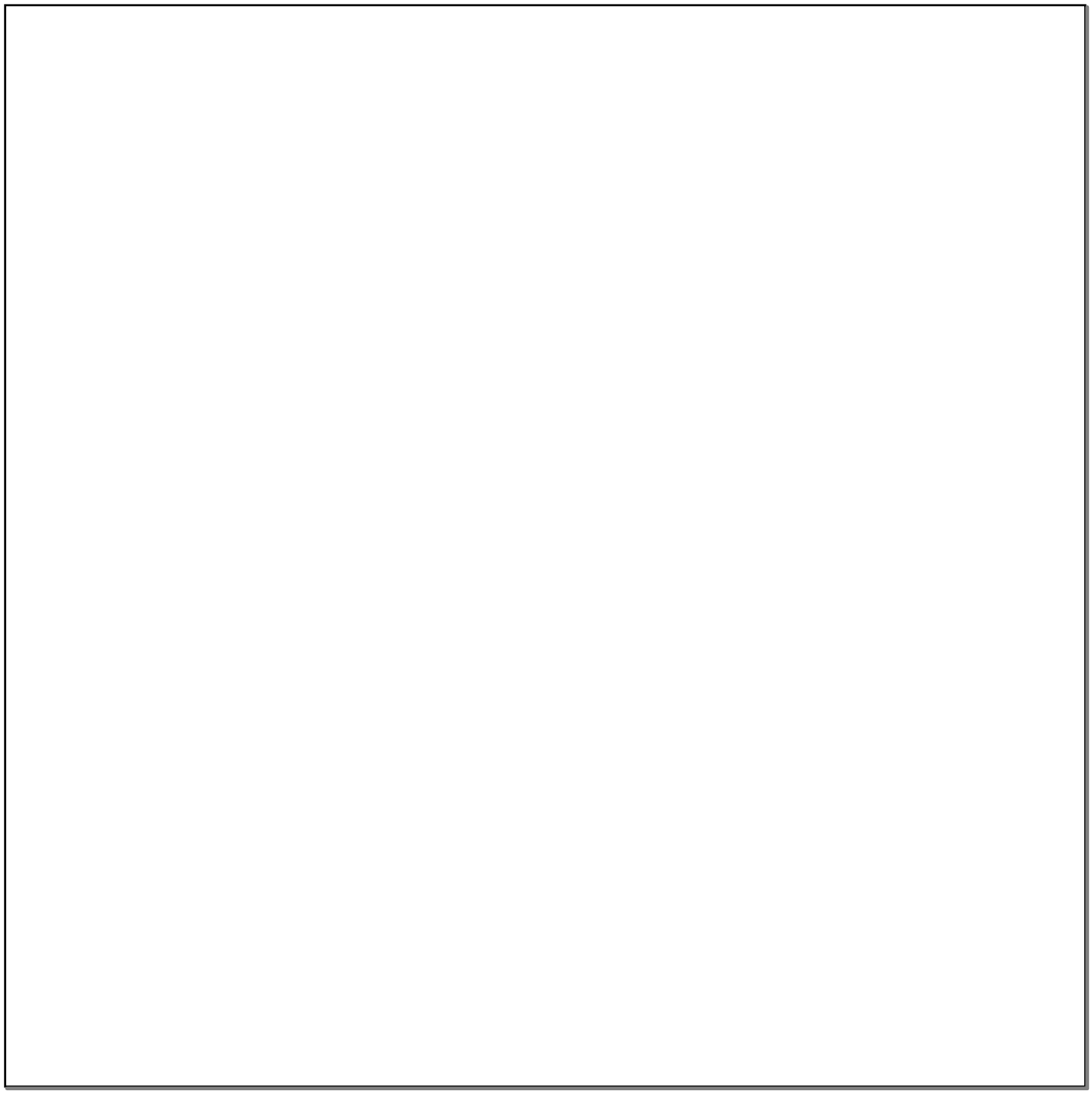
$\tan\theta = -\frac{\sqrt{3}}{3}$

Simplify completely. Use a unit circle OR a parent graph to show your work.

$\cos\left(Sin^{-1}\left(-\frac{3}{4}\right)\right)$

$\sec\left(Tan^{-1}\left(-\sqrt{3}\right)\right)$

$\cos^{-1}\left(\sin\frac{7\pi}{4}\right)$

$\csc\left(\sec^{-1}2\right)$

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