

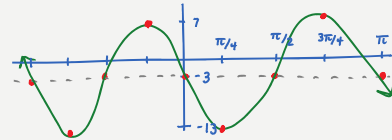
GRAPH 2 PERIODS OF THE FOLLOWING:

$$y = 10 \cos\left(2\left(\theta - \frac{3\pi}{4}\right)\right) - 3$$

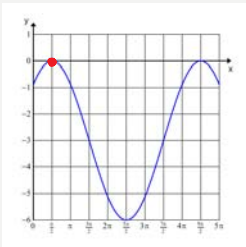
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$$y = 10 \cos\left(2\left(\theta - \frac{3\pi}{4}\right)\right) - 3$$

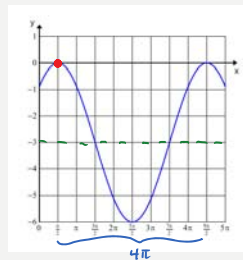
$$P = \frac{2\pi}{2} = \pi$$



WRITE THE EQUATION OF THE GRAPH BELOW.



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$$P = 4\pi \Rightarrow 4\pi = \frac{2\pi}{b}$$

$$\downarrow 3 \quad b = \frac{1}{2}$$

$$a = 3$$

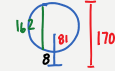
$$\rightarrow \frac{\pi}{2}$$

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

WRITE AN EQUATION TO MODEL THE FOLLOWING:

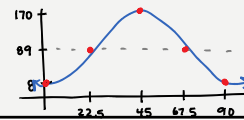
A Ferris wheel has a maximum height of 170 feet. The radius of the wheel is 81 feet. One rotation of the wheel takes 90 seconds, and the riders get on at the bottom of the wheel.

WRITE AN EQUATION TO MODEL THE FOLLOWING:



$$P = 90 = \frac{2\pi}{b} \Rightarrow b = \frac{\pi}{45}$$

A Ferris wheel has a maximum height of 170 feet. The radius of the wheel is 81 feet. One rotation of the wheel takes 90 seconds, and the riders get on at the bottom of the wheel.



$$y = -81 \cos\left(\frac{\pi}{45}x\right) + 89$$

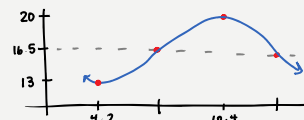
WRITE AN EQUATION TO MODEL THE FOLLOWING:

Low tide at Hilton Head Island, SC on July 4th occurs at 4:12 am and measures 13 feet deep. High tide occurs at 10:24 am and measures 20 feet deep. The period of the tide is 12 hours, 24 minutes.

WRITE AN EQUATION TO MODEL THE FOLLOWING:

$$P = 12.4 = \frac{2\pi}{b} \Rightarrow b = \frac{\pi}{6.2}$$

Low tide at Hilton Head Island, SC on July 4th occurs at 4:12 am and measures 13 feet deep. High tide occurs at 10:24 am and measures 20 feet deep. The period of the tide is 12 hours, 24 minutes.



$$y = -3.5 \cos\left(\frac{\pi}{6.2}(x - 4.2)\right) + 16.5$$