

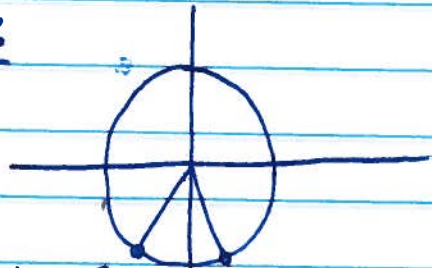
MATH 1540 Fall 2018

Quiz 9

Solve for $0 \leq \theta < 2\pi$:

$$2 \sin(\theta) = -\sqrt{3}.$$

Soln:



$$\begin{array}{cc} (-\frac{1}{2}, -\frac{\sqrt{3}}{2}) & (\frac{1}{2}, -\frac{\sqrt{3}}{2}) \\ \theta = \frac{4\pi}{3} & \theta = \frac{5\pi}{3} \end{array}$$

From given equation, solve for $\sin(\theta)$ to get

$$\sin(\theta) = \frac{-\sqrt{3}}{2}$$

From the portion of the unit circle above, we see that the soln to

$$\sin(\theta) = \frac{-\sqrt{3}}{2}$$

is $\theta = \frac{4\pi}{3}, \frac{5\pi}{3}$.