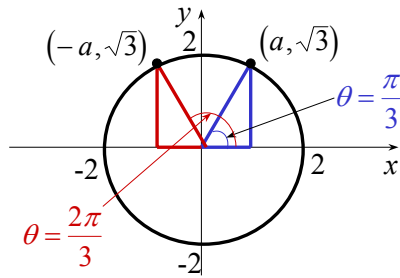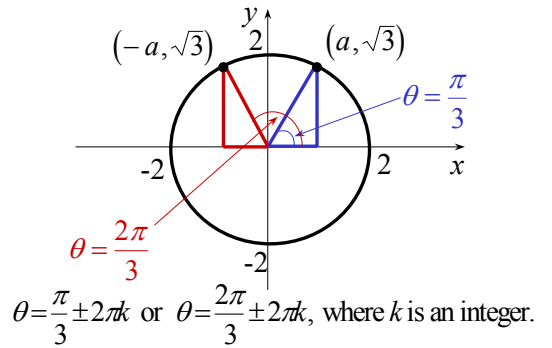Solve the equation: $\sin\theta = \dfrac{\sqrt{3}}{2}$

The period of the sine function is 2π.

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$\theta = \dfrac{\pi}{3} \pm 2\pi k$ or $\theta = \dfrac{2\pi}{3} \pm 2\pi k$, where k is an integer.

Solve the equation:

$$\sin 4\theta = \frac{\sqrt{3}}{2}, \quad 0 \le \theta < 2\pi$$

$4\theta = \dfrac{\pi}{3} \pm 2\pi k \qquad\qquad 4\theta = \dfrac{2\pi}{3} \pm 2\pi k$

$\theta = \dfrac{\pi}{12} \pm \dfrac{1}{2}\pi k \qquad\qquad \theta = \dfrac{\pi}{6} \pm \dfrac{1}{2}\pi k$

$\theta = \dfrac{\pi}{12}, \dfrac{7}{12}\pi, \dfrac{13}{12}\pi, \dfrac{19}{12}\pi \qquad \theta = \dfrac{\pi}{6}, \dfrac{2}{3}\pi, \dfrac{7}{6}\pi, \dfrac{5}{3}\pi$

Use a calculator to solve:

$$\sin\theta = 0.2, \quad 0 \le \theta < 2\pi$$

$\theta = \sin^{-1} 0.2 \approx 0.2014$

$\theta = \pi - \sin^{-1} 0.2 \approx 2.9402$