

Solve the equation on the interval $0 \leq \theta < 2\pi$.

1) $\sin(4\theta) = \frac{\sqrt{3}}{2}$

1) _____

2) $4 \csc \theta - 3 = 1$

2) _____

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

3) _____

Solve the equation. Give a general formula for all the solutions.

4) $\cos(2\theta) = \frac{\sqrt{2}}{2}$

2) LIST 8 SOLUTIONS

4) _____

Use a calculator to solve the equation on the interval $0 \leq \theta < 2\pi$. Round the answer to two decimal places.

5) $\sin \theta = 0.48$

5) _____

6) $\tan \theta = 5.1$

6) _____

7) $\cos \theta = -0.62$

7) _____

Using a graphing utility, solve the equation on the interval $0 \leq \theta < 2\pi$. Round answer to three decimal places.

8) $2 \csc \theta = 5$

8) _____

Solve the equation on the interval $[0, 2\pi)$.

9) Suppose $f(x) = 2 \cos \theta + 1$. Solve $f(x) = 0$.

9) _____

10) Suppose $f(x) = 7 \csc \theta - 2$. Solve $f(x) = 5$.

10) _____

PRECALCULUS extra practice Sec. 6-8

Solve the equation on the interval $0 \leq \theta < 2\pi$.

1) $\csc^5 \theta - 4 \csc \theta = 0$ (HINT: FACTOR OUT $\csc \theta$)

1) _____

2) $\cos^2 \theta + 2 \cos \theta + 1 = 0$

2) _____

3) $\sin^2 \theta - \cos^2 \theta = 0$

3) _____

4) $\sin(2\theta) + \sin \theta = 0$

4) _____

5) $\cos(2\theta) = \sqrt{2} - \cos(2\theta)$

5) _____

6) $\cos \theta - \sin \theta = 0$

6) _____

Use a graphing utility to solve the equation on the interval $0^\circ \leq x < 360^\circ$. Express the solution(s) rounded to one decimal place.

7) $\tan^2 x + 5 \tan x + 3 = 0$

7) _____

Use a calculator to solve the equation on the interval $0 \leq x < 2\pi$. Round the answer to one decimal place if necessary.

8) $2x^2 - 3x \sin x = 2$

8) _____

Answer Key

Testname: PC EXTRA PRACTICE SEC. 6-7

1) $\frac{\pi}{12}, \frac{\pi}{6}, \frac{2\pi}{3}, \frac{7\pi}{12}, \frac{7\pi}{6}, \frac{13\pi}{12}, \frac{5\pi}{3}, \frac{19\pi}{12}$

2) $\frac{\pi}{2}$

3) $\frac{3\pi}{8}, \frac{7\pi}{8}, \frac{11\pi}{8}$, and $\frac{15\pi}{8}$

4) $\theta = \frac{\pi}{8} + k\pi, \theta = \frac{7\pi}{8} + k\pi$

5) 0.50, 2.64

6) 1.38, 4.52

7) 2.24, 4.04

8) 0.412, 2.730

9) $\frac{2\pi}{3}, \frac{4\pi}{3}$

10) $\frac{\pi}{2}$

4) $\frac{\pi}{8} \quad \frac{7\pi}{8}$

$\frac{9\pi}{8} \quad \frac{15\pi}{8}$

$\frac{17\pi}{8} \quad \frac{23\pi}{8}$

$\frac{25\pi}{8} \quad \frac{31\pi}{8}$

$-\frac{7\pi}{8} \quad -\frac{\pi}{8}$

$\vdots \quad \vdots$

Answer Key

Testname: PC EXTRA PRACTICE SEC. 6-8

1) $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

2) π

3) $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

4) $0, \frac{2\pi}{3}, \pi, \frac{4\pi}{3}$

5) $\frac{\pi}{8}, \frac{7\pi}{8}, \frac{9\pi}{8}, \frac{15\pi}{8}$

6) $\frac{\pi}{4}, \frac{5\pi}{4}$

7) $103.1^\circ, 145.1^\circ, 283.1^\circ, 325.1^\circ$

8) 1.9

