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Quiz #10

Attempts

Attempt 1: 90% (9/10 points), Nov 29 at 10:50am MST

ⓘ   Answer explanations will be available on December 10, 2023 at 11:59 PM Mountain Standard Time.

Questions to show:

All (10)   ▾

QUESTION 1 · 1/1 POINTS

Solve the following for θ, in radians, where $0 \leq \theta < 2\pi$.

$$-5\sin^2(\theta) + 4\sin(\theta) + 5 = 0$$

Round to the nearest hundredth.

That is correct!

3.89rad, 5.54rad

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QUESTION 2 · 1/1 POINTS

Determine the exact value of θ in the following equation if $0 \leq \theta < 2\pi$.

$$8\sin^2\theta + 8 = 16$$

Enter your answers in radians separated by commas.

That is correct!

$\theta = \frac{\pi}{2}, \frac{3\pi}{2}$

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QUESTION 3 · 1/1 POINTS

If $-\pi \leq \theta < \pi$, find all values of θ that satisfy the equation below.

$$4\tan^2\theta = 4\tan\theta.$$

Separate multiple answers with a comma.

That is correct!

$\theta = 0, -\pi, \frac{\pi}{4}, -\frac{3\pi}{4}$

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QUESTION 4 · 1/1 POINTS

Given that $\sec(\theta) = \frac{\sqrt{13}}{3}$ and θ is in Quadrant IV, what is $\tan(\theta)$? Write your answer in exact form. Do not round.

That is correct!

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

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QUESTION 5 · 1/1 POINTS

Which of the following is equivalent to $\frac{(1+\cos\alpha)(1-\cos\alpha)}{\sin^3\alpha}$ for all values of α for which $\frac{(1+\cos\alpha)(1-\cos\alpha)}{\sin^3\alpha}$ is defined?

That is correct!

◯ $\sec\alpha\tan\alpha$

◯ 1

⦿ $\csc\alpha$

◯ $\cos^2\alpha$

◯ $\sin\alpha$

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QUESTION 6 · 1/1 POINTS

Solve the equation below for θ, where $0 \leq \theta < 2\pi$.

$$-8\sin^2\theta - 4 = -10$$

Enter your answer in radians and separate multiple answers with a comma.

That is correct!

$\theta = \dfrac{\pi}{3}, \dfrac{2\pi}{3}, \dfrac{4\pi}{3}, \dfrac{5\pi}{3}$

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QUESTION 7 · 1/1 POINTS

Solve the following for θ, in radians, where $0 \leq \theta < 2\pi$.

$$-7\sin^2(\theta) + 4\sin(\theta) + 7 = 0$$

Round your answers to two decimal places.

That is correct!

$\theta = \;\; 4.0 \;\;$ and $\;\; \theta = \;\; 5.43$

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QUESTION 8 · 1/1 POINTS

Solve the following for θ, in radians, where $0 \leq \theta < 2\pi$.

$$-5\cos^2(\theta) + 4\cos(\theta) + 6 = 0$$

Round your answers to the nearest hundredth of a radian.

That is correct!

$\theta = \quad 2.44 \quad$ and $\quad \theta = \quad 3.84$

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QUESTION 9 · 1/1 POINTS

Given that $\sec(\theta) = \dfrac{\sqrt{221}}{11}$ and θ is in Quadrant IV, what is $\tan(\theta)$?

Give an exact answer in the form of a fraction.

That is correct!

$\tan(\theta) = -\dfrac{10}{11}$

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QUESTION 10 · 0/1 POINTS

Solve the equation below given that $-\pi \leq \beta < \pi$.

$$4\tan^2\beta + 4\tan\beta = 0$$

Separate multiple answers with commas.

That's not right.

$\beta = \frac{\pi}{4}, -\frac{3\pi}{4}$

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