Answer on Question #58928 – Math – Trigonometry

Question

The value $\frac{\pi}{4}$ is a solution for the equation $3\sqrt{2}\cos\theta + 2 = -1$.

False

True

Solution

If $\theta = \frac{\pi}{4}$, then $3\sqrt{2}cos\theta + 2 = 3\sqrt{2}cos\left(\frac{\pi}{4}\right) + 2 = 3\sqrt{2} \cdot \frac{\sqrt{2}}{2} + 2 = 3 = 2 = 5 \neq -1$, hence $\theta = \frac{\pi}{4}$ is not a solution for the equation $3\sqrt{2}cos\theta + 2 = -1$.

Thus, the statement in question is false.

Answer: False.

Question

There is no solution to the equation $\csc x = 0$.

True

False

Solution

$\csc x = 0$,

$\frac{1}{\cos x} = 0$,

Hence there is no solution to the equation $\csc x = 0$.

Answer: True.

Question

Which of the following is an example of simple harmonic motion?

A ball bouncing on a sidewalk

The height of the water in Monterey Bay

Calculating the angle of elevation for a building

A police car shining a spotlight into buildings as it drives by

Answer: The height of the water in Monterey Bay.