# Answer on Question #57363 – Math – Trigonometry

## Question

Solve
$$2\cos(2\theta) = 1$$

## Solution

$$2\cos(2\theta) = 1$$

$$\cos(2\theta) = \frac{1}{2}$$

$$2\theta = arccos\left(\frac{1}{2}\right) + n\pi, n \in \mathbb{Z} \text{ ($n$ is integer),}$$

$$2\theta = \frac{\pi}{3} + n\pi, n \in \mathbb{Z},$$

$$\theta = \frac{\pi}{6} + \frac{n\pi}{2}, n \in \mathbb{Z}.$$

**Answer:** $\theta = \frac{\pi}{6} + \frac{n\pi}{2}, n \in \mathbb{Z}.$