

Math 1613 - Trigonometry

Quiz #9 - 2009.10.13

Solutions

Verify the following trigonometric identity:

$$(1 + \sin(x) + \cos(x))^2 = 2(1 + \sin(x))(1 + \cos(x))$$

$$\begin{aligned}(1 + \sin(x) + \cos(x))^2 &= 1 + 2\sin(x) + 2\cos(x) + 2\sin(x)\cos(x) + \sin^2(x) + \cos^2(x) \\ &= 2[1 + \sin(x) + \cos(x) + \sin(x)\cos(x)] \\ &= 2(1 + \sin(x))(1 + \cos(x))\end{aligned}$$