Answer on Question #77296 – Math – Algebra

Question

The diagram shows one solution to the equation 3 - sin 0 = 5 sin 0. Find the complete solution of the equation.

Solution

$3 - sin\theta = 5sin\theta \ \rightarrow \quad sin\theta = \frac{1}{2}.$

$\theta = \frac{\pi}{6} + 2\pi n \ \ or \ \ \theta = \frac{5\pi}{6} + 2\pi n, \ \ n = 0, \pm 1, \pm 2, \ldots.$

Answer: $\theta = \frac{\pi}{6} + 2\pi n, \ \ \theta = \frac{5\pi}{6} + 2\pi n, \ \ n = 0, \pm 1, \pm 2, \ldots.$