

You have seen that the function equals 0 at $\theta = 0, \pi, 2\pi, 3\pi,$ and 4π . The graph of sine has a hill/ valley pattern that repeats forever in both directions. Each hill and each valley is π units wide and ends on the horizontal axis, or with a value of 0. So the function will continue to be equal to 0 at every multiple of π . All the multiples of π in the interval $4\pi \leq \theta \leq 7\pi$ are $\theta = 4\pi, 5\pi, 6\pi, 7\pi$.