You probably recognized that the graph of sine has one hill with a high point, and one valley with a low point, where the function equals 1 and -1. However, you chose the wrong angles for these two points. The correct answer is: when $\theta = -\dfrac{7\pi}{2}$, $\sin\theta = 1$; when $\theta = -\dfrac{5\pi}{2}$, $\sin\theta = -1$