

On every hill in the graph, the value of  $\sin \theta$  first goes up from 0 to 1. At some point in between, it has the value  $\frac{1}{2}$ . Then on the other side of the hill, the value of  $\sin \theta$  goes down from 1 to 0. At some point in between, it again has the value  $\frac{1}{2}$ . Because the sine function equals  $\frac{1}{2}$  at two points on each hill, and because there are two hills in the interval  $[-2\pi, 2\pi]$ , there are a total of 4 points where  $\sin \theta = \frac{1}{2}$ .