

The graph of cosine has a hill with endpoints at  $\theta = -\frac{\pi}{2}$  and  $\theta = \frac{\pi}{2}$ , where the value of the function is 0. It has a repeating hill and valley pattern in both directions, with each hill and valley having a width of  $\pi$  units. So the endpoints of the hills and valleys, where the function is equal to 0, are:

$$\theta = \pm\frac{\pi}{2}, \pm\frac{3\pi}{2}, \pm\frac{5\pi}{2}, \pm\frac{7\pi}{2}, \dots$$

These numbers are all odd multiples of  $\frac{\pi}{2}$ .