Draw 240° in standard position. The terminal side is in the third quadrant and the reference angle is 60°. Use the $30^\circ - 60^\circ - 90^\circ$ triangle to find the value of this function at the reference angle:

$$\sin 60^\circ = \frac{\sqrt{3}}{2}$$

Use the signs of *x* and *y* in the third quadrant to determine the sign of sine:

$$\sin 240^\circ = \frac{y}{1} = \frac{(-)}{(+)} = (-)$$

So: $\sin 240^\circ = -\frac{\sqrt{3}}{2}$