

Draw 330° in standard position. The terminal side is in the fourth quadrant and the reference angle is 30° . Use the $30^\circ - 60^\circ - 90^\circ$ triangle to find the value of this function at the reference angle:

$$\sec 30^\circ = \frac{2}{\sqrt{3}} = \frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$$

Use the signs of x and y in the fourth quadrant to determine the sign of secant:

$$\sec 330^\circ = \frac{1}{x} = \frac{(+)}{(+)} = (+)$$

$$\text{So: } \sec 330^\circ = +\frac{2\sqrt{3}}{3}$$