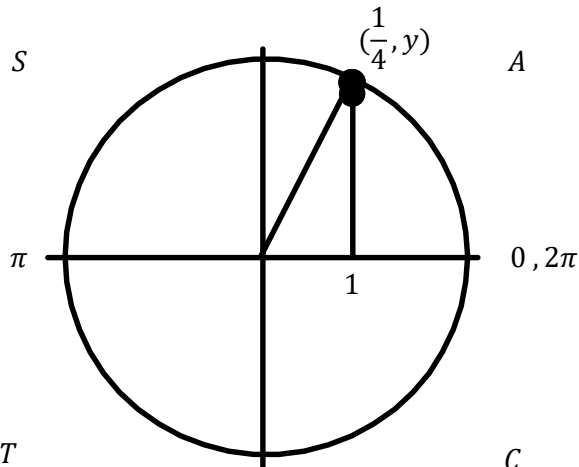


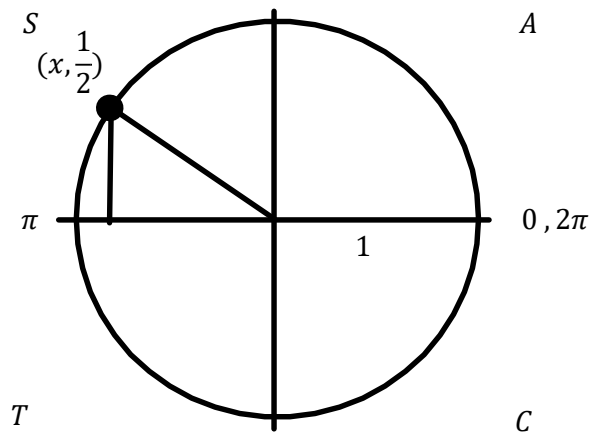
# C12 - 4.8 - Solve (x,y) Unit Circle Notes

Solve the point on the unit circle



$$\begin{aligned} x^2 + y^2 &= 1 \\ \left(\frac{1}{4}\right)^2 + y^2 &= 1 \\ \frac{1}{16} + y^2 &= \frac{16}{16} \\ y^2 &= \frac{15}{16} \end{aligned}$$

$$y = \pm \frac{\sqrt{15}}{4} \quad \left(\frac{1}{4}, \frac{\sqrt{15}}{4}\right)$$



$$\begin{aligned} x^2 + y^2 &= 1 \\ x^2 + \left(\frac{1}{2}\right)^2 &= 1 \\ x^2 + \frac{1}{4} &= \frac{4}{4} \\ x^2 &= \frac{3}{4} \end{aligned}$$

$$x = \pm \frac{\sqrt{3}}{2} \quad \left(-\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$$

Is the point on the unit circle

$$\left(-\frac{3}{4}, \frac{1}{4}\right)$$

$$\begin{aligned} x^2 + y^2 &= 1 \\ \left(-\frac{3}{4}\right)^2 + \left(\frac{1}{4}\right)^2 &\neq 1 \\ \frac{9}{16} + \frac{1}{16} &\neq 1 \\ \frac{10}{16} &\neq 1 \end{aligned}$$

Not on Unit Circle

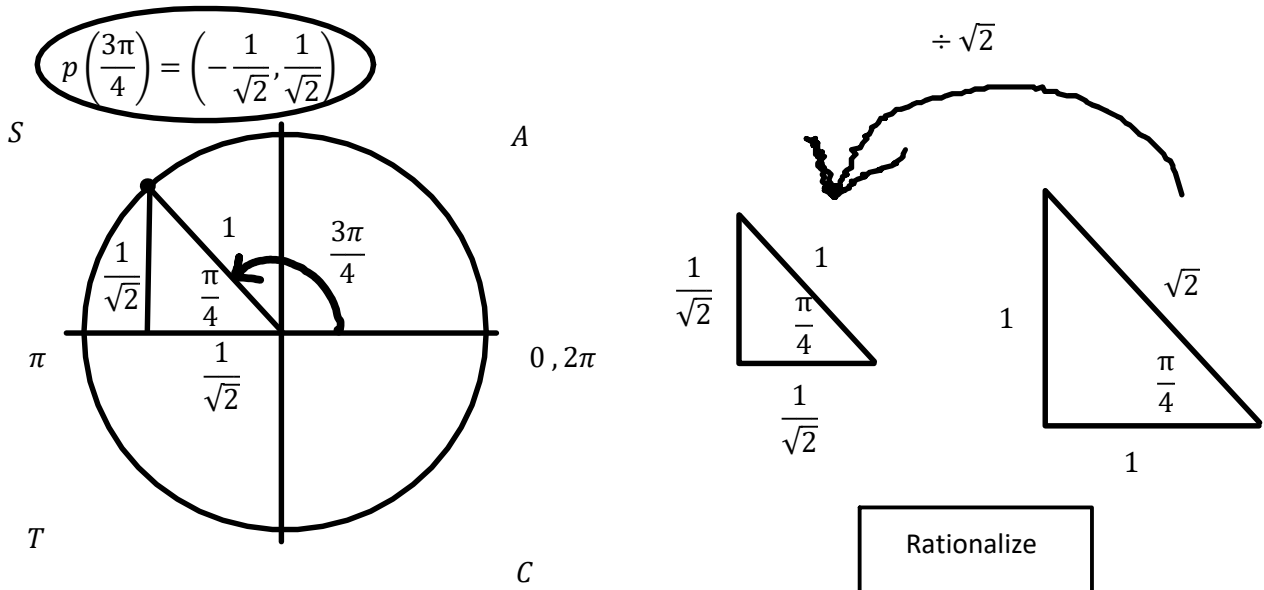
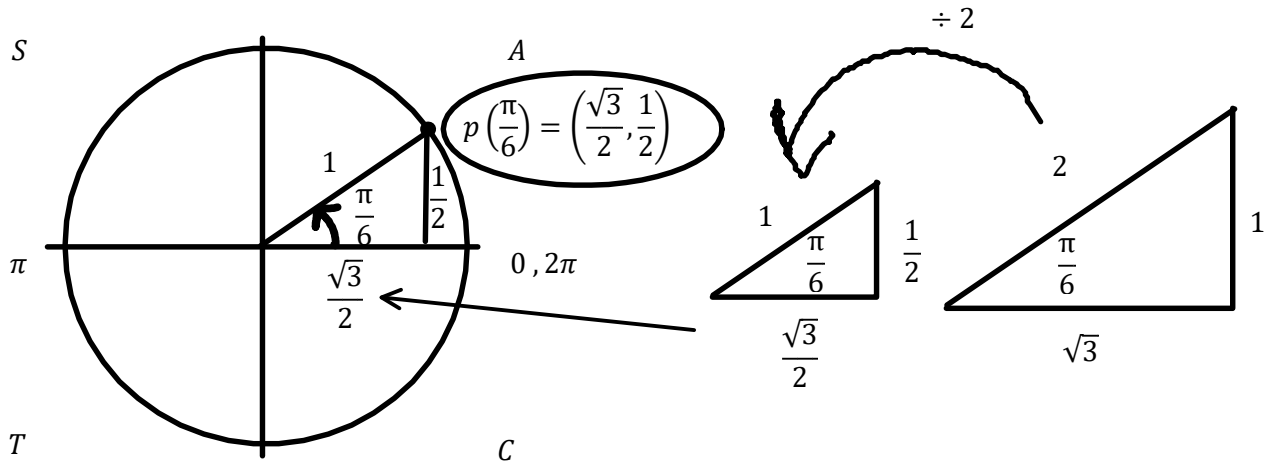
$$\left(-\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$$

$$\begin{aligned} x^2 + y^2 &= 1 \\ \left(-\frac{\sqrt{3}}{2}\right)^2 + \left(-\frac{1}{2}\right)^2 &= 1 \\ \frac{3}{4} + \frac{1}{4} &= 1 \\ 1 &= 1 \end{aligned}$$

On Unit Circle

# C12 - 4.8 - Solve $p(\theta)$ Unit Circle Notes

Solve the point on the unit circle



Rationalize

$$\frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

