

Name: _____

Date: _____

Learning Goal 4.1

Examining angles in standard position in both radians and degrees. Exploring the unit circle, reference and coterminal angles and special angles.

Recall Special Angle Triangles**The Unit Circle**

Example Find the equation of a circle, centered at the origin, with a radius of 5.

Example Find the co-ordinate(s) of all points on the unit circle that satisfy the conditions below. Include a diagram in your solution.

a. x – coordinate of $\frac{3}{4}$.

b. y – coordinate of $\frac{1}{\sqrt{3}}$.

Note $P(\theta) = (x, y)$ means we want the angle, θ , in standard position, that has the coordinates specified where the terminal arm of the angle intersects the unit circle.

Example Evaluate $P(\pi) = (x, y)$.

Example Given $P(\theta) = (0, -1)$, find θ in radians.

Example Evaluate.

a. $P\left(\frac{2\pi}{3}\right)$

b. $P\left(\frac{5\pi}{4}\right)$

c. $P\left(\frac{\pi}{3}\right)$

Example Identify the measure for the central angle θ in the interval $0 \leq \theta \leq 2\pi$ such that $P(\theta)$ is the given point.

a. $\left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

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

c. $(0, 1)$