

Conversion factors for converting between

$$\frac{\pi}{180^\circ} \quad \text{or} \quad \frac{180^\circ}{\pi}$$

converts degrees to radians

converts radians to degrees

Convert each angle into radians.

1. $225^\circ \cdot \frac{\pi}{180^\circ \div 45} = \frac{5\pi}{4}$

2. $-720^\circ \cdot \frac{\pi}{180^\circ \div 9} = -4\pi$

3. 330°

$$-\frac{8\pi}{2} = -4\pi$$

Convert each angle to degrees. Round to the nearest tenth when needed.

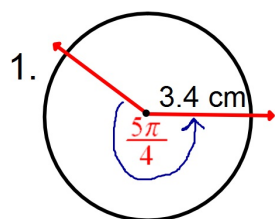
1. $\frac{11\pi}{2}$

2. $-\frac{13\pi}{8} \cdot \frac{180^\circ}{\pi} = -292.5$

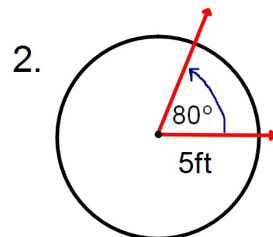
3. $5.2 \cdot \frac{180^\circ}{\pi} = 297.9^\circ$

$S = \theta r$ Length of an arc equals the measure of the angle, in radians, times the radius.

Find the measure of each arc to the nearest hundredth.



$$\left(\frac{5\pi}{4}\right) \cdot (3.4) = 13.35 \text{ cm}$$



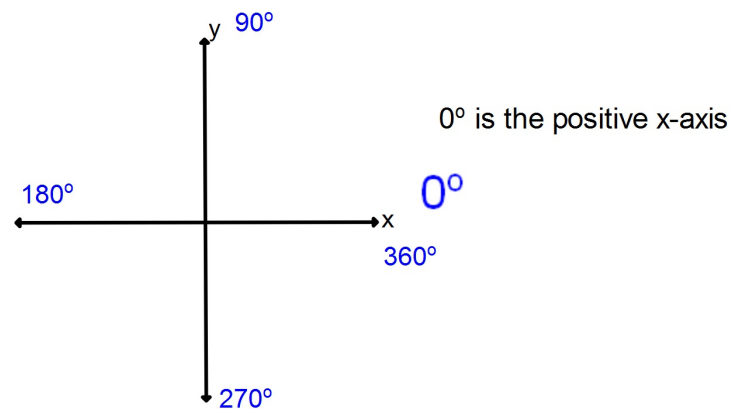
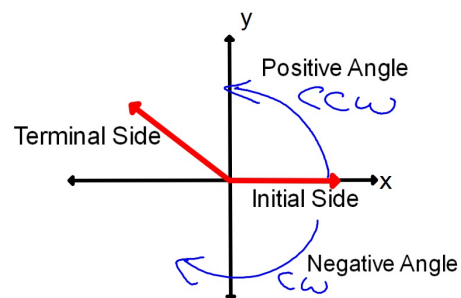
$$\left(80^\circ \cdot \frac{\pi}{180^\circ}\right) 5 = 6.98 \text{ ft}$$

$$S = \theta r$$

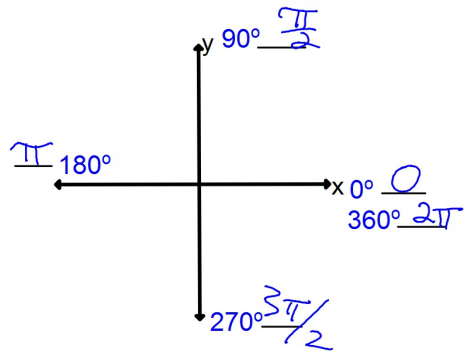
Sec 13-2: Angles and the Unit Circle.

Angles in Standard Position:

Vertex is at the origin and one ray is on the positive x-axis.

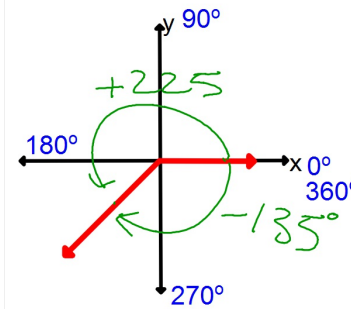


State the equivalent measure in radians for each of the measures in degrees shown below.



The terminal side is in the middle of the third quadrant.
Give two possible measures for this angle.

$$\theta = +225^\circ \quad \theta = -135^\circ$$



Can you give 2 more possible measures of this angle?

$$\begin{aligned} 225 + 360 &= \\ \theta &= 585^\circ \\ -135 - 360 &= \\ \theta &= -495^\circ \end{aligned}$$