

Your turn:

Convert 315° to radians.

Convert $\frac{7\pi}{4}$ to degrees.

An arc with a measure of 120° has an arc length of 10π inches.

What is the radius of the circle on which the arc sits?

$$\frac{10\pi}{d} = \frac{120}{360}$$
$$\frac{10}{d} = \frac{1}{3}$$
$$d = 30$$
$$r = 15$$

An arc has a length of 4π units and a radius of 6 units. What is the angle of the sector in radians?

$$\frac{14}{312\pi} = \frac{x}{360}$$

$$\frac{1}{3} = \frac{x}{360}$$

$$360 = 3x$$

$$x = 120$$

$$\frac{2\pi}{3}$$

$$\frac{2}{120\pi}$$

$$\frac{180}{3}$$

Suppose a circle with an 11.4 inch arc intercepted by the central angle and a radius that is 3 inches long. Determine the measure of the central angle in radians.

$$\frac{11.4}{6\pi} = \frac{x}{360}$$

$$217.7235$$

$$\frac{\pi}{180}$$

$$1.2\pi$$

$$\frac{4104}{18.8496} = 18.8496x$$

$$217.7235 = x$$