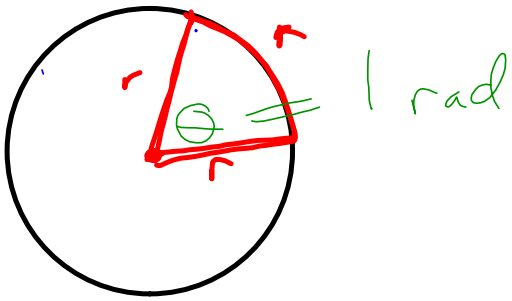
# Radian Measure

The measure of the angle formed by rotating the radius of a circle through an arc length equal in length to the radius.




There are $2\pi$ radians in one complete revolution ($360^\circ$).

# Converting between degree and radians

$2\pi$ rad $= 360^\circ$ $\pi$ rad $= 180^\circ$

Deg → Rad

x deg → ____ rad

$x \cdot \frac{\pi}{180} =$ rad

Rad → Deg

x rad → ____°

$x \cdot \frac{180}{\pi} =$ rad

# Arc Length

Use angle in radians.

Arc length = $\theta \cdot r$

Convert $40^\circ$ to Radians

$$\frac{40\pi}{180} = \frac{2\pi}{9}$$

pg. 208
# 1, 5, 7, 9, 11