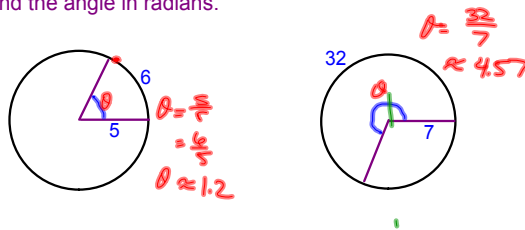


**Radian Measure Formula**

The radian measure formula,  $\theta = s/r$  ( $s$ =arc length,  $r$ =radius), can be used to measure arc length along a circle.

Find the angle in radians.



Find the radian measure of the central angle of a circle of the given radius that intercepts an arc of the given length.

Radius	Arc Length
15 in.	4 in.

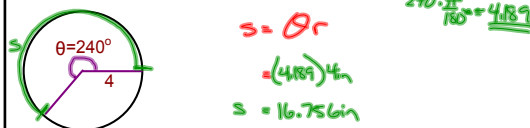
$\theta = \frac{4\text{ in}}{15\text{ in}} = \approx 0.267$

14.5 cm.	25 cm.
----------	--------

Specifically, for a circle of radius 'r', a central angle  $\theta$  intercepts an arc of length 's' given by  $s=r\theta$ , where  $\theta$  is measure in radians.

**Finding Arc Length**

A circle has a radius of 4 inches. Find the length of the arc intercepted by a central angle of  $240^\circ$ .

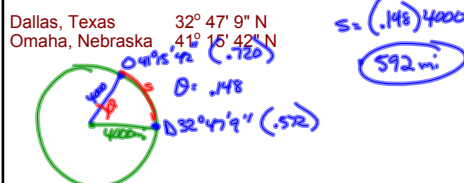


Find the length of the arc on a circle of the given radius intercepted by the given central angle.

Radius	Central Angle
15 in.	$180^\circ$ $\pi$

$s = \pi \cdot 15\text{ in}$   
 $= 47.124\text{ in}$

Find the distance between the cities. Assume the earth is a sphere of radius 4000 miles and the cities are on the same meridian (one city is due north of the other).



Assignment:

p. 124

# 72 - 84 even  
(lets look at 83 together)

FOLLOW Directions!

Quiz 1.1 Tomorrow

.