

Sketch the following & name the Quadrant. p.35

- $\frac{17\pi}{6} \approx 2.83\pi$
- $-\frac{5\pi}{8} \approx -0.625\pi$   
 or  $\frac{8}{8} - \frac{5\pi}{8} = -\pi$   
 Convert to degrees  $-\frac{5\pi}{8} \cdot \frac{180^\circ}{\pi} = -\frac{5(180^\circ)}{8} = -112.5^\circ$   
 $-\frac{\pi}{8} = -\frac{4\pi}{8}$   
 $-.5\pi$
- $5$

Aug 29-8:41 AM

Finding Arc Length p.36

$s = r\theta$   
 where  $s = \text{arc length}$   
 $r = \text{radius}$   
 $\theta = \text{angle measure in radians}$

- A circle has a radius of 4 inches. Find the length of the arc intercepted by a central angle of  $240^\circ$ .  
 $r = 4$   
 $s = ?$   
 $\theta = 240^\circ$   
 $s = r\theta$   
 Convert degrees to radians  
 $240^\circ \cdot \frac{\pi}{180^\circ} = \frac{240\pi}{180} = \frac{4\pi}{3}$   
 $s = 4 \left( \frac{4\pi}{3} \right) = \frac{16\pi}{3}$
- Find the angle in radians given  
  
 $s = 31$   
 $r = 12$   
 $\theta = ?$   
 $\text{arc} = \text{radius} \cdot \text{radians}$   
 $s = r\theta$   
 $31 = 12\theta$   
 $\frac{31}{12} = \frac{12\theta}{12}$   
 $\theta = \frac{31}{12}$  or  $2.583$  radians
- Find the radian measure of the central angle of a circle with a radius of 22 ft and an arc length of 10 ft.  
 $s = 10$   
 $r = 22$   
 $\theta = ?$   
 $s = r\theta$   
 $10 = 22\theta$   
 $\frac{10}{22} = \frac{22\theta}{22}$   
 $\theta = \frac{5}{11}$  or  $.45$

Aug 29-8:16 AM