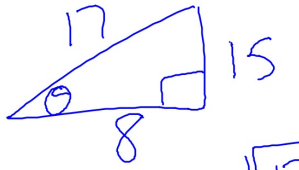
Given $\sin\theta = \frac{15}{17}$ and $\cos\theta < 0$

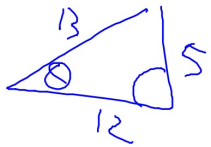
Find $\tan\theta$ $= -\frac{15}{8}$



$\sqrt{17^2 - 15^2} =$

Given $\tan\theta = -\frac{5}{12}$ and $\sin\theta < 0$

Find $\cos\theta$ $+\frac{12}{13}$



$\sqrt{5^2 + 12^2}$

Sec 13-3: Radian Measure

The angle measure of one full revolution around a circle is 360°

Another unit used to measure angles is called Radians

The angle measure of one full revolution around a circle in radians is 2π

$360^\circ = 2\pi$

Which can be simplified into: $180^\circ = \pi$

This relationship produces two conversion factors:

$$\frac{180^\circ}{\pi} \qquad \frac{\pi}{180^\circ}$$

From Radian to degrees

From degrees to radians

$\frac{180^\circ}{\pi}$ $\frac{\pi}{180^\circ}$

Use the above conversion factors to do the following:

1. Convert into radians:

a. $330^\circ \cdot \frac{\pi}{180^\circ}$ $\frac{11\pi}{6}$

b. $240^\circ \cdot \frac{\pi}{180^\circ}$ $\frac{4\pi}{3}$

c. $135^\circ \cdot \frac{\pi}{180^\circ} \div 45$ $\frac{3\pi}{4}$

$\frac{180°}{\pi}$ $\frac{\pi}{180°}$

Use the above conversion factors to do the following:

2. Convert to degrees:

a. $\frac{7\pi}{6} \cdot \frac{180°}{\pi}$ $210°$

b. $\frac{11\pi}{15} \cdot \frac{180°}{\pi}$ $132°$

c. $12 \cdot \frac{180°}{\pi}$ $687.5°$

Hwk #16

Sec 13-3

Pages 729-730

Problems 1-3, 8-10, 16, 17

Radians on the Unit Circle:

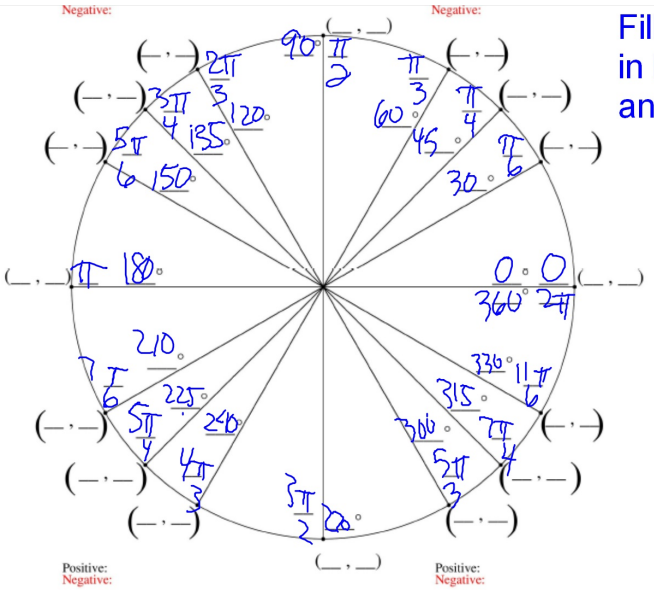
Convert To Radians:

$30° \cdot \frac{\pi}{180}$ $\frac{\pi}{6}$

$45°$ $\frac{45}{1} \cdot \frac{\pi}{180°} = \frac{\pi}{4}$

$60° \cdot \frac{\pi}{180}$ $\frac{\pi}{3}$

$90° \frac{\pi}{180}$ $\frac{\pi}{2}$



Fill in the angles in both degrees and radians

Find a positive and a negative coterminal angle for each. Give your answer in radians.

	Pos	Neg
1. $-\frac{3\pi}{4}$	$-\frac{3\pi}{4}+\frac{8\pi}{4}$ $5\pi/4$	$-\frac{3\pi}{4}-\frac{8\pi}{4}=\frac{-11\pi}{4}$
2. $\frac{7\pi}{6}$	$\frac{7\pi}{6}+\frac{12\pi}{6}$ $\frac{19\pi}{6}$	$\frac{7\pi}{6}-\frac{12\pi}{6}=\frac{-5\pi}{6}$