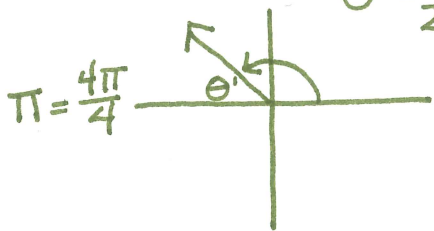


Name: Key

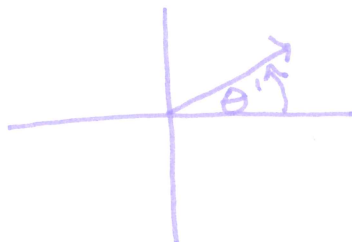
Sketching Angles HW (Radians) 2016-2017

Determine what quadrant the angle, given in radians, is located, then sketch the angle.

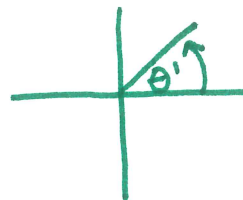
1. $\frac{3\pi}{4}$ II
 $\theta' = \frac{\pi}{4}$



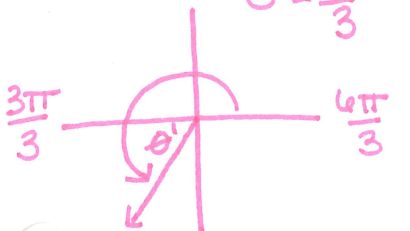
2. $\frac{\pi}{6}$ I $\theta' = \frac{\pi}{6}$



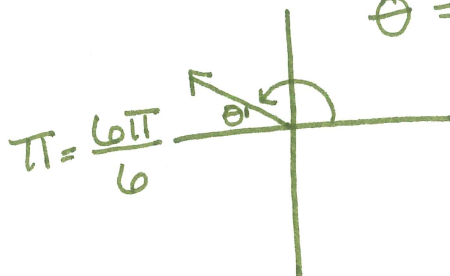
3. $\frac{\pi}{4}$ Quad I
 $\theta' = \frac{\pi}{4}$



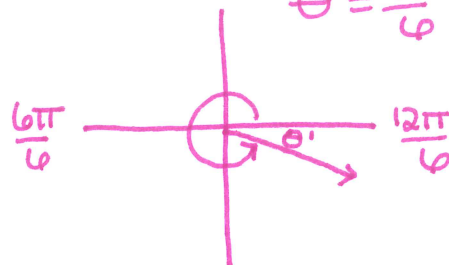
4. $\frac{4\pi}{3}$ Quad III
 $\theta' = \frac{\pi}{3}$



5. $\frac{5\pi}{6}$ II
 $\theta' = \frac{\pi}{6}$



6. $\frac{11\pi}{6}$ Quad IV
 $\theta' = \frac{\pi}{6}$



Examples: Find one angle with positive measure and one angle with negative measure coterminal with each angle. (You must keep your answers in radians.)

1. $\frac{11\pi}{6}$ $\frac{11\pi}{6}$ use common denom
 $2\pi = \frac{12\pi}{6}$

Positive:

$$\frac{11\pi}{6} + \frac{12\pi}{6} = \frac{23\pi}{6}$$

Negative: $\frac{11\pi}{6} - \frac{12\pi}{6} = -\frac{\pi}{6}$

2. $\frac{\pi}{3}$ $2\pi = \frac{6\pi}{3}$

Positive = $\frac{\pi}{3} + \frac{6\pi}{3} = \frac{7\pi}{3}$

Negative = $\frac{\pi}{3} - \frac{6\pi}{3} = -\frac{5\pi}{3}$

3. $-\frac{\pi}{4}$ $2\pi = \frac{8\pi}{4}$

Positive =

$$-\frac{\pi}{4} + \frac{8\pi}{4} = \frac{7\pi}{4}$$

Negative =

$$-\frac{\pi}{4} - \frac{8\pi}{4} = -\frac{9\pi}{4}$$

4. $\frac{17\pi}{4}$ $2\pi = \frac{8\pi}{4}$

Positive = $\frac{17\pi}{4} + \frac{8\pi}{4} = \frac{25\pi}{4}$

Negative = $\frac{17\pi}{4} - \frac{8\pi}{4} = \frac{9\pi}{4}$ still Pos.

$\frac{9\pi}{4} - \frac{8\pi}{4} = \frac{\pi}{4}$ still positive!!
 $\frac{\pi}{4} - \frac{8\pi}{4} = -\frac{7\pi}{4}$ Negative!