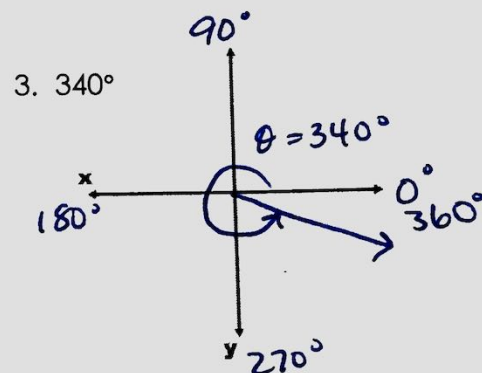
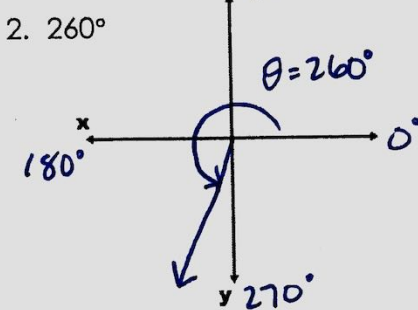
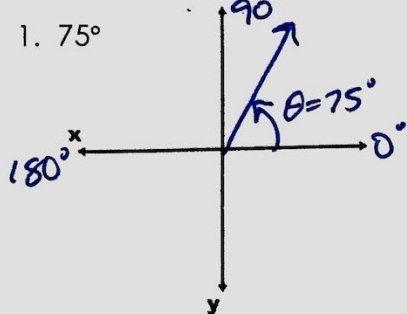
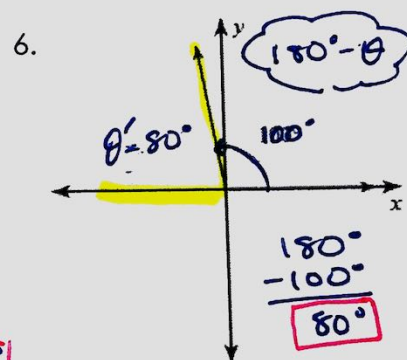
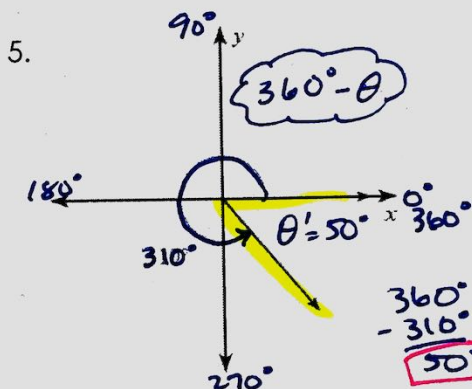
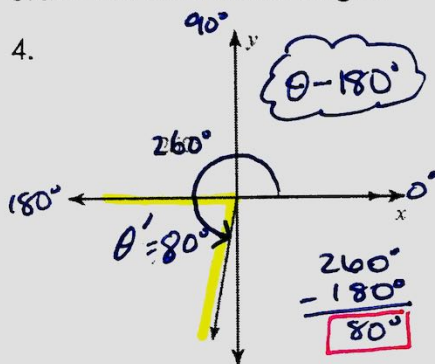


WARM-UP:

Sketch the given angle as close as you can.



State the reference angle.



Dimensional Analysis: Convert the following. Show all your work.

7. 525 seconds to minutes

$$\frac{525 \text{ sec}}{1} \cdot \frac{1 \text{ min.}}{60 \text{ sec}} = \boxed{8.75 \text{ min.}}$$

8. 18.5 feet to inches

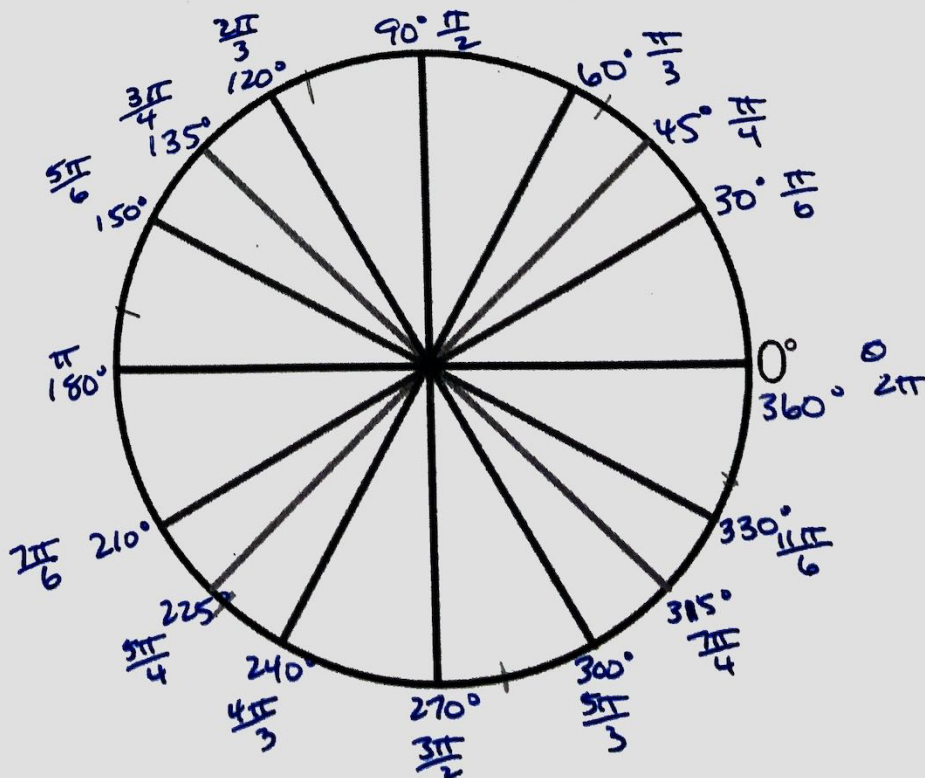
$$18.5 \text{ ft.} \cdot \frac{12 \text{ in.}}{1 \text{ ft.}} = \boxed{222 \text{ inches}}$$

9. Fill in as much as you can of the Unit Circle, including both degrees & radians!

each one is a unit to measure angles

How many radii does it take to get to 180° ? $3+$

How many radii does it take to get to 360° ? $6+$

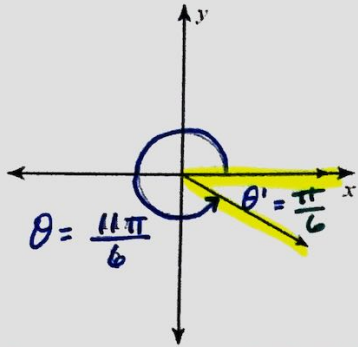


Reference Angles

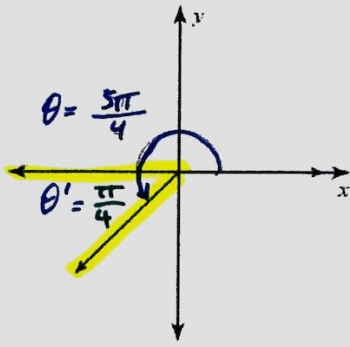
$\pi - \theta$	θ
$\theta - \pi$	$2\pi - \theta$

Reference Angles with Radians - Leave answer in radians.

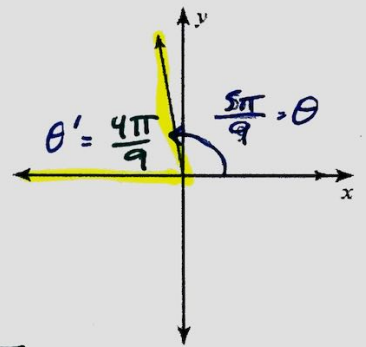
Remember: You are finding the smallest angle that the terminal side makes with the x-axis.

1. 

$$2\pi - \frac{11\pi}{6} = \frac{12\pi - 11\pi}{6} = \boxed{\frac{\pi}{6}}$$

2. 

$$\frac{5\pi}{4} - \pi = \frac{5\pi}{4} - \frac{4\pi}{4} = \boxed{\frac{\pi}{4}}$$

3. 

$$\pi - \frac{5\pi}{9} = \frac{9\pi}{9} - \frac{5\pi}{9} = \boxed{\frac{4\pi}{9}}$$

Converting Degrees & Radians

We now know that $360^\circ = 2\pi$.

How can we find our conversion to go from degrees to radians?

Proof: $360^\circ = 2\pi$ radians
 $180^\circ = \pi$ radians
 1 Degree = $\frac{\pi}{180}$ radians

To convert degrees to radians, multiply by: $\frac{\pi}{180^\circ}$

Examples:

1. $200^\circ \cdot \frac{\pi}{180^\circ} = \frac{200\pi}{180} = \boxed{\frac{10\pi}{9}}$

2. $45^\circ \cdot \frac{\pi}{180^\circ} = \frac{45\pi}{180} = \boxed{\frac{\pi}{4}}$

3. $320^\circ \cdot \frac{\pi}{180^\circ} = \frac{320\pi}{180} = \boxed{\frac{16\pi}{9}}$

How about our conversion to go from radians to degrees?

Proof: $360^\circ = 2\pi$ radians
 $180^\circ = \pi$ radians
 $\frac{180 \text{ Degrees}}{\pi} = 1 \text{ radian}$

To convert radians to degrees, multiply by: $\frac{180^\circ}{\pi}$

Examples:

4. $\frac{13\pi}{18} \cdot \frac{180^\circ}{\pi} = \boxed{130^\circ}$

5. $\frac{\pi}{3} \cdot \frac{180^\circ}{\pi} = \boxed{60^\circ}$

6. $\frac{10\pi}{9} \cdot \frac{180^\circ}{\pi} = \boxed{200^\circ}$