Find the measures in radians and revolutions equivalent to these degree measures.

90°   150°   75°   210°

-36°   -135°

Find the coterminal angle between 0 and 2π.

$\frac{11\pi}{3}$ $-\frac{35\pi}{18}$ $\frac{15\pi}{4}$ $-\frac{19\pi}{12}$

Convert from radian measure to degree measure.

Radian measure $\left(\frac{180}{\pi}\right)$

Find the measures in degree and revolutions equivalent to these radian measures.

$\left(\frac{\pi}{3}\right)\left(\frac{180}{\pi}\right)$ $\left(\frac{5\pi}{4}\right)\left(\frac{180}{\pi}\right)$ $\frac{2\pi}{5}$ $-\frac{15\pi}{16}$

$\frac{180}{3}$ $\frac{5\cdot180}{4}$

$60°$ $225°$ $72°$ -168.75

Rev → $\frac{Degree}{360}$

Rad → $Degree\left(\frac{\pi}{180}\right)$
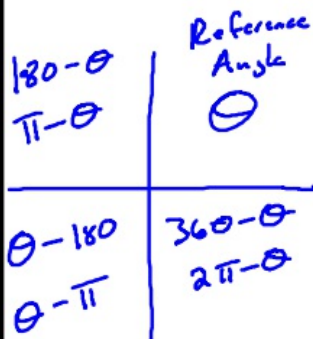
Deg → $Rad\left(\frac{180}{\pi}\right)$

Complete a copy of the following table to show equivalent revolution, degree, and radian measurements. Save the table as a reference for later use.

Revolutions	0	$\frac{1}{12}$	$\frac{1}{8}$		
Degree	0	30	45		90
Radians	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	

Revolutions				
Degree		135	150	
Radians	$\frac{2\pi}{3}$			π

Revolutions				
Degree	210		240	270
Radians		$\frac{5\pi}{4}$		

Revolutions				
Degree	300	315		360
Radians			$\frac{11\pi}{6}$	

Reference angle: → How far from X-axis

$180-\theta$	Reference Angle
$\pi-\theta$	θ
$\theta-180$	$360-\theta$
$\theta-\pi$	$2\pi-\theta$

Find the reference angle.

230°
230−180
50°

112°
180−112
68°

345°

-125°+360
235°

-285°+360
75°

$180 \to \pi$

$$\begin{array}{c|c} \pi-\theta & \theta \\ \hline \theta-\pi & 2\pi-\theta \end{array}$$

$\dfrac{4.5\pi}{9}$

$\dfrac{13\pi}{13}$

$$\begin{array}{c|c} \frac{6.5\pi}{13} & \\ \hline & 0 \\ & \frac{26\pi}{13} \end{array}$$

$\frac{19.5\pi}{13}$

$\dfrac{10\pi}{18}$

$$\begin{array}{c|c} \frac{9\pi}{18} & \\ \hline & 0 \end{array}$$

$\dfrac{9\pi}{9}$

$$\begin{array}{c|c} & 0 \\ \hline & \frac{18\pi}{9} \end{array}$$
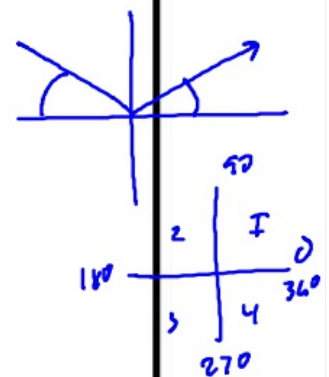
$\dfrac{13.5\pi}{9}$
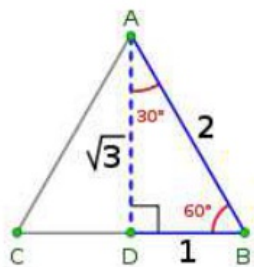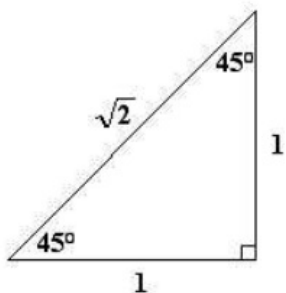
$\dfrac{7\pi}{9}$

$\pi - \dfrac{7\pi}{9}$

$\dfrac{9\pi}{9} - \dfrac{7\pi}{9}$

$\dfrac{2\pi}{9}$

$\dfrac{16\pi}{13}$

$\dfrac{16\pi}{13} - \pi$

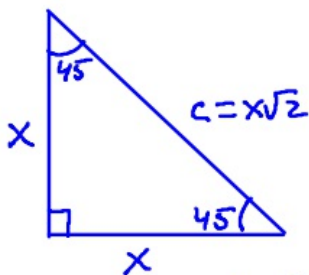$\dfrac{16\pi}{13} - \dfrac{13\pi}{13}$

$\dfrac{3\pi}{13}$

$\dfrac{17\pi}{9}$

$2\pi - \dfrac{17\pi}{9}$

$\dfrac{18\pi}{9} - \dfrac{17\pi}{9}$

$\dfrac{\pi}{9}$

$-\dfrac{29\pi}{18} + 2\pi$

$-\dfrac{29\pi}{18} + \dfrac{36\pi}{18}$

$\boxed{\dfrac{7\pi}{18}}$

Special Right Triangles

Isosceles

- Both legs are the same.

- Hypotenuse Leg mult $\sqrt{2}$

$c = x\sqrt{2}$

$$x^2 + x^2 = c^2$$
$$\sqrt{2x^2} = \sqrt{c^2}$$
$$x\sqrt{2} = c$$

- Short Leg is half the hypotenuse

- Long Leg is short Leg · $\sqrt{3}$
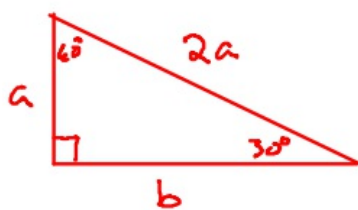
$$a^2 + b^2 = (2a)^2$$
$$a^2 + b^2 = 4a^2$$
$$\sqrt{b^2} = \sqrt{3a^2}$$
$$b = a\sqrt{3}$$

Unit Circle, Fill in the blank

Radius = 1

$$\frac{1}{\sqrt{2}}, \frac{\sqrt{2}}{\sqrt{2}} = \boxed{\frac{\sqrt{2}}{2}}$$

$\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

$\left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

$(0,1)$

$90°$

$\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

$\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

$120°$

$60°$

$(-,-)$

$135°$

$45°$

$\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

$\frac{\sqrt{2}}{2}$

$30°$

1

$(\_,\_)$

$-\frac{\sqrt{2}}{2}$

$45°$

$0°$

$(1,0)$

$0°$

$(-,-)$

$(-,-)$

$0°$

$(-,-)$

$(-,-)$

$(-,-)$

$0°$

$(-,-)$

$(-,-)$

$(\_,\_)$