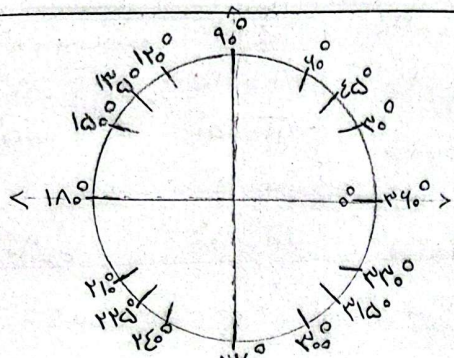
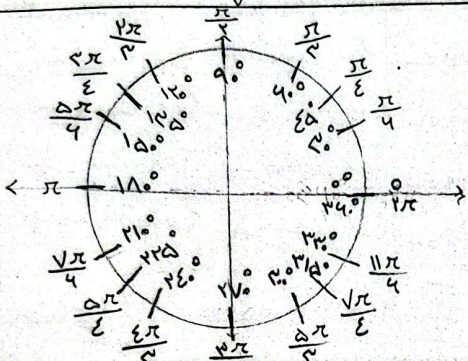




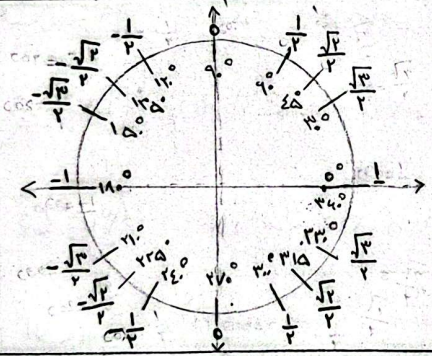
زوايا معروف پر حسب درجہ :

୩୩°-୧୫	୪୨°-୧୧	୧୯°-୫	୦°-୧
୩୫°-୧୮	୪୬°-୧୪	୨୩°-୮	୩°-୪
	୪୮°-୧୬	୨୬°-୧୦	୬°-୬
	୫୦°-୧୮	୨୯°-୧୨	୯°-୯
	୫୨°-୨୦	୩୧°-୧୪	୧୨°-୧୨
	୫୪°-୨୨	୩୩°-୧୬	୧୫°-୧୫
	୫୬°-୨୪	୩୫°-୧୮	୧୮°-୧୮
	୫୮°-୨୬	୩୭°-୨୦	୨୧°-୨୧
	୬୦°-୨୮	୩୯°-୨୨	୨୪°-୨୪
	୬୨°-୩୦	୪୧°-୨୪	୨୭°-୨୭
	୬୪°-୩୨	୪୩°-୨୬	୩୦°-୩୦
	୬୬°-୩୪	୪୫°-୨୮	୩୩°-୩୩
	୬୮°-୩୬	୪୭°-୩୦	୩୬°-୩୬
	୭୦°-୩୮	୪୯°-୩୨	୩୯°-୩୯
	୭୨°-୪୦	୫୧°-୩୪	୪୨°-୪୨
	୭୪°-୪୨	୫୩°-୩୬	୪୫°-୪୫
	୭୬°-୪୪	୫୫°-୩୮	୪୮°-୪୮
	୭୮°-୪୬	୫୭°-୪୦	୫୧°-୫୧
	୮୦°-୪୮	୫୯°-୪୨	୫୪°-୫୪
	୮୨°-୫୦	୬୧°-୪୪	୫୭°-୫୭
	୮୪°-୫୨	୬୩°-୪୬	୬୦°-୬୦
	୮୬°-୫୪	୬୫°-୪୮	୬୩°-୬୩
	୮୮°-୫୬	୬୭°-୫୦	୬୬°-୬୬
	୯୦°-୫୮	୬୯°-୫୨	୬୯°-୬୯
	୯୨°-୬୦	୭୧°-୫୪	୭୨°-୭୨
	୯୪°-୬୨	୭୩°-୫୬	୭୫°-୭୫
	୯୬°-୬୪	୭୫°-୫୮	୭୮°-୭୮
	୯୮°-୬୬	୭୭°-୬୦	୮୧°-୮୧
	୧୦୦°-୬୮	୭୯°-୬୨	୮୪°-୮୪
	୧୦୨°-୭୦	୮୧°-୬୪	୮୭°-୮୭
	୧୦୪°-୭୨	୮୩°-୬୬	୯୦°-୯୦
	୧୦୬°-୭୪	୮୫°-୬୮	
	୧୦୮°-୭୬	୮୭°-୭୦	
	୧୧୦°-୭୮	୮୯°-୭୨	
	୧୧୨°-୮୦	୯୧°-୭୪	
	୧୧୪°-୮୨	୯୩°-୭୬	
	୧୧୬°-୮୪	୯୫°-୭୮	
	୧୧୮°-୮୬	୯୭°-୮୦	
	୧୨୦°-୮୮	୯୯°-୮୨	
	୧୨୨°-୯୦	୧୦୧°-୮୪	
	୧୨୪°-୯୨	୧୦୩°-୮୬	
	୧୨୬°-୯୪	୧୦୫°-୮୮	
	୧୨୮°-୯୬	୧୦୭°-୯୦	
	୧୩୦°-୯୮	୧୦୯°-୯୨	
	୧୩୨°-୧୦୦	୧୧୧°-୯୪	
	୧୩୪°-୧୦୨	୧୧୩°-୯୬	
	୧୩୬°-୧୦୪	୧୧୫°-୯୮	
	୧୩୮°-୧୦୬	୧୧୭°-୧୦୦	
	୧୪୦°-୧୦୮	୧୧୯°-୧୦୨	
	୧୪୨°-୧୧୦	୧୨୧°-୧୦୪	
	୧୪୪°-୧୧୨	୧୨୩°-୧୦୬	
	୧୪୬°-୧୧୪	୧୨୫°-୧୦୮	
	୧୪୮°-୧୧୬	୧୨୭°-୧୧୦	
	୧୫୦°-୧୧୮	୧୨୯°-୧୧୨	
	୧୫୨°-୧୨୦	୧୩୧°-୧୧୪	
	୧୫୪°-୧୨୨	୧୩୩°-୧୧୬	
	୧୫୬°-୧୨୪	୧୩୫°-୧୧୮	
	୧୫୮°-୧୨୬	୧୩୭°-୧୨୦	
	୧୬୦°-୧୨୮	୧୩୯°-୧୨୨	
	୧୬୨°-୧୩୦	୧୪୧°-୧୨୪	
	୧୬୪°-୧୩୨	୧୪୩°-୧୨୬	
	୧୬୬°-୧୩୪	୧୪୫°-୧୨୮	
	୧୬୮°-୧୩୬	୧୪୭°-୧୩୦	
	୧୭୦°-୧୩୮	୧୪୯°-୧୩୨	
	୧୭୨°-୧୪୦	୧୫୧°-୧୩୪	
	୧୭୪°-୧୪୨	୧୫୩°-୧୩୬	
	୧୭୬°-୧୪୪	୧୫୫°-୧୩୮	
	୧୭୮°-୧୪୬	୧୫୭°-୧୪୦	
	୧୮୦°-୧୪୮	୧୫୯°-୧୪୨	
	୧୮୨°-୧୫୦	୧୬୧°-୧୪୪	
	୧୮୪°-୧୫୨	୧୬୩°-୧୪୬	
	୧		



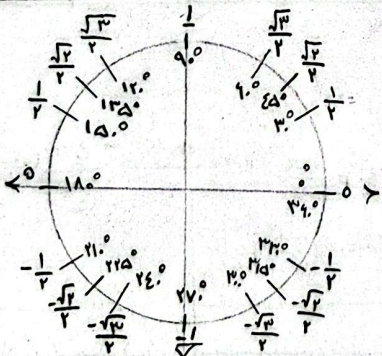
زوايا معروف بر حسب رادیان :

$\frac{11\pi}{4} = 315^\circ$	$\frac{\Delta\pi}{\varepsilon} = 34^\circ$	$\frac{\gamma\pi}{\gamma} = 14^\circ$	$0 = 0^\circ$
$2\pi = 360^\circ$	$\frac{\varepsilon\pi}{\gamma} = 28^\circ$	$\frac{\gamma\pi}{\varepsilon} = 19^\circ$	$\frac{\pi}{4} = 9^\circ$
	$\frac{\gamma\pi}{\gamma} = 16^\circ$	$\frac{\Delta\pi}{4} = 15^\circ$	$\frac{\pi}{\varepsilon} = 28^\circ$
	$\frac{\Delta\pi}{\gamma} = 30^\circ$	$\pi = 18^\circ$	$\frac{\pi}{\gamma} = 4^\circ$
	$\frac{\gamma\pi}{\varepsilon} = 31^\circ$	$\frac{\gamma\pi}{4} = 21^\circ$	$\frac{\pi}{4} = 9^\circ$



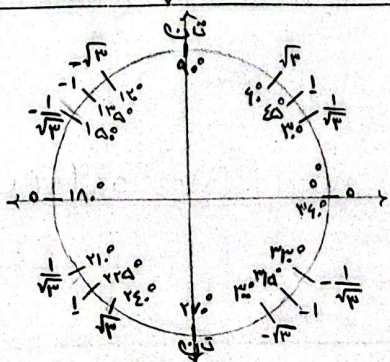
کسنوس زوایا معروف :

کسیوس (روای مکتوب):			
$\frac{\sqrt{2}}{2} = 33^\circ$	$\frac{\sqrt{2}}{2} = 45^\circ$	$-\frac{1}{2} = 14^\circ$	$1 = 0^\circ$
$1 = 33^\circ$	$-\frac{1}{2} = 45^\circ$	$-\frac{\sqrt{2}}{2} = 14^\circ$	$\frac{\sqrt{2}}{2} = 3^\circ$
	$0 = 45^\circ$	$-\frac{\sqrt{2}}{2} = 15^\circ$	$\frac{\sqrt{2}}{2} = 45^\circ$
$\frac{1}{2} = 33^\circ$	$-\frac{1}{2} = 14^\circ$	$-\frac{\sqrt{2}}{2} = 45^\circ$	$\frac{1}{2} = 4^\circ$
$\frac{\sqrt{2}}{2} = 33^\circ$	$-\frac{\sqrt{2}}{2} = 45^\circ$		$0 = 9^\circ$



سینوس زوایا معروف:

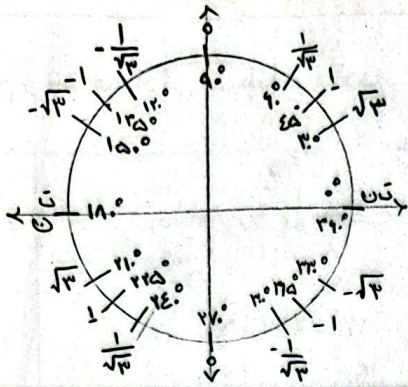
$-\frac{1}{r} = 144^\circ$	$-\frac{\sqrt{4}}{r} = 225^\circ$	$\frac{\sqrt{4}}{r} = 120^\circ$	$0 = 0^\circ$
$0 = 149^\circ$	$-\frac{\sqrt{4}}{r} = 240^\circ$	$\frac{\sqrt{2}}{r} = 135^\circ$	$\frac{1}{r} = 150^\circ$
$-1 = 216^\circ$	$-\frac{\sqrt{2}}{r} = 150^\circ$	$\frac{1}{r} = 15^\circ$	$\frac{\sqrt{2}}{r} = 45^\circ$
$-\frac{\sqrt{2}}{r} = 150^\circ$	$0 = 170^\circ$	$0 = 170^\circ$	$\frac{\sqrt{4}}{r} = 40^\circ$
$-\frac{\sqrt{2}}{r} = 1514^\circ$	$-\frac{1}{r} = 210^\circ$		$1 = 90^\circ$



تائز انت زوايا معروف:

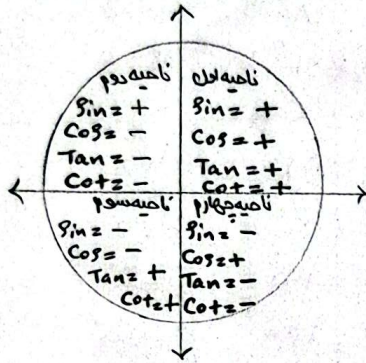
$-\frac{1}{\sqrt{3}} = 330^\circ$	$L = 225^\circ$	$-\sqrt{3} = 150^\circ$	$0 = 0^\circ$
$0 = 240^\circ$	$\sqrt{3} = 240^\circ$	$-1 = 135^\circ$	$\frac{1}{\sqrt{3}} = 30^\circ$
270° تقریب نشده	$-\frac{1}{\sqrt{3}} = 150^\circ$	$0 = 180^\circ$	$L = 225^\circ$
$-\sqrt{3} = 300^\circ$	$0 = 180^\circ$	$\frac{1}{\sqrt{3}} = 30^\circ$	$\sqrt{3} = 45^\circ$
$-1 = 315^\circ$	$\frac{1}{\sqrt{3}} = 210^\circ$	90° تقریب نشده	

کٹانثافت روائی معروف :



$-\sqrt{3} = 330^\circ$	$1 = 90^\circ$	$-\frac{1}{\sqrt{3}} = 120^\circ$	$0 = 0^\circ$
$\frac{1}{\sqrt{3}} = 30^\circ$	$\frac{1}{\sqrt{3}} = 240^\circ$	$-1 = 180^\circ$	$\sqrt{3} = 30^\circ$
$0 = 270^\circ$	$0 = 270^\circ$	$-\sqrt{3} = 150^\circ$	$1 = 45^\circ$
$-\frac{1}{\sqrt{3}} = 300^\circ$	$-\frac{1}{\sqrt{3}} = 300^\circ$	$\sqrt{3} = 210^\circ$	$\frac{1}{\sqrt{3}} = 4^\circ$
$-1 = 270^\circ$	$-1 = 270^\circ$	$0 = 9^\circ$	

علامت Sin - Cos - Tan - Cot نواحی :



نامیہ اول :	نامیہ دوم :	نامیہ سوم :	نامیہ چہارم :
Sin مثبت = +	Sin مثبت = -	Sin مثبت = +	Sin مثبت = -
Cos مثبت = +	Cos مثبت = -	Cos مثبت = -	Cos مثبت = +
Tan مثبت = +	Tan مثبت = -	Tan مثبت = -	Tan مثبت = +
Cot مثبت = +	Cot مثبت = -	Cot مثبت = -	Cot مثبت = +

الف) 40° سینوس 9° و 120° $\frac{\sqrt{3}}{2}$

ب) 210° کسینوس 150° و 210° $-\frac{\sqrt{3}}{2}$

ج) 150° تانثافت 150° و 330° $-\frac{1}{\sqrt{3}}$

د) 315° کٹانثافت 315° و 135° -1

الف) $\frac{5\pi}{4}$ و $\frac{\pi}{4}$ $\frac{5\pi}{4} = 225^\circ$ $\cos 225^\circ = -\frac{1}{\sqrt{2}} \Rightarrow \frac{1}{\sqrt{2}} \Rightarrow \sin 45^\circ = \frac{1}{\sqrt{2}} \Rightarrow 45^\circ = \frac{\pi}{4}$

ب) $\frac{5\pi}{3}$ و $\frac{4\pi}{3}$ $\frac{5\pi}{3} = 300^\circ$ $\cos 300^\circ = \frac{\sqrt{3}}{2} \Rightarrow \frac{\sqrt{3}}{2} \Rightarrow \sin 60^\circ = \frac{\sqrt{3}}{2} \Rightarrow 60^\circ = \frac{\pi}{3}$

الف) 180° $\frac{7\pi}{6} = 210^\circ \Rightarrow \cot 210^\circ = -1 \Rightarrow \cos 180^\circ = -1$

ب) 40° و 120° $\cos 120^\circ = -\frac{1}{2} \Rightarrow \frac{1}{2} \Rightarrow \sin 30^\circ = \frac{1}{2}$