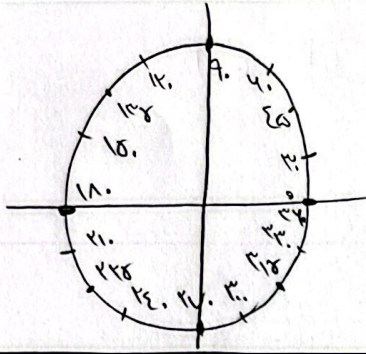
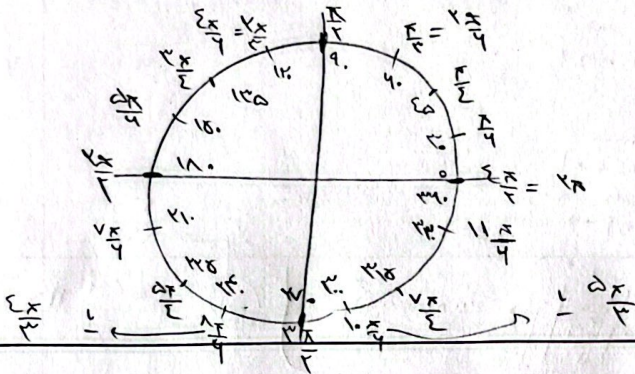


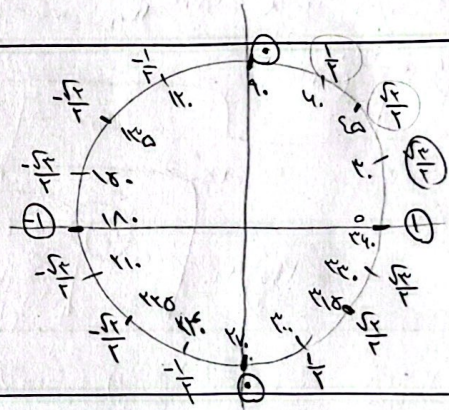


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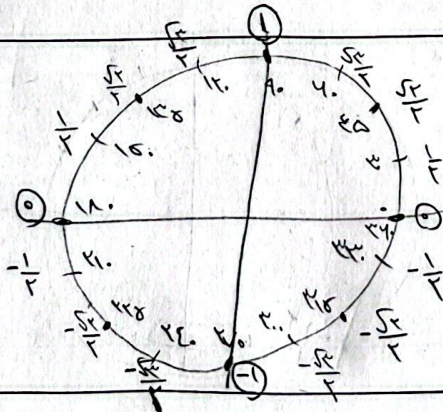
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$\cos \rightarrow$



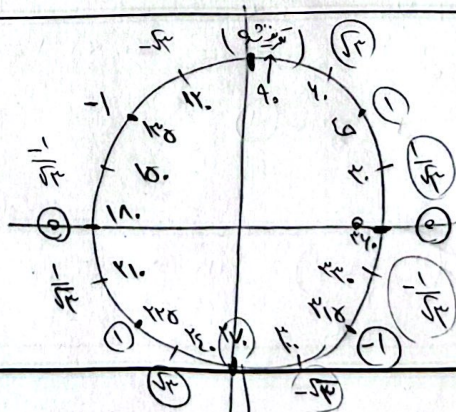
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$\sin \rightarrow$



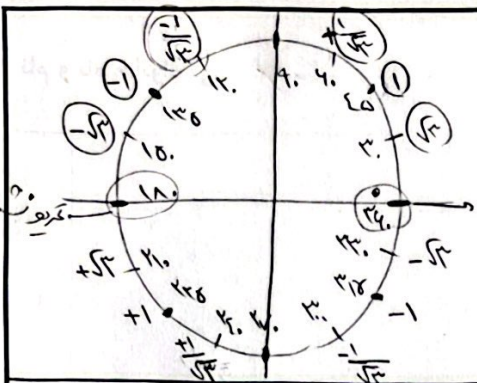
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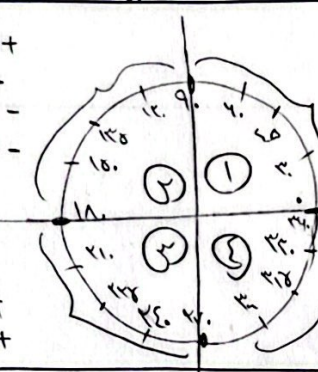
$\tan \alpha \rightarrow \frac{\sin}{\cos}$



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تکلیف (تحریم - صفا) - ۱ - ۱ - ۱

$\cot \alpha \rightarrow \frac{\cos}{\sin}$
 (ن = 0) $\rightarrow \frac{1}{0} = \infty$ (صفر = مخرج) (تقسیم بر صفر)


Signs in quadrants:
 Q1: $\sin \rightarrow +, \cos \rightarrow +, \tan \rightarrow +, \cot \rightarrow +$
 Q2: $\sin \rightarrow +, \cos \rightarrow -, \tan \rightarrow -, \cot \rightarrow -$
 Q3: $\sin \rightarrow -, \cos \rightarrow -, \tan \rightarrow +, \cot \rightarrow +$
 Q4: $\sin \rightarrow -, \cos \rightarrow +, \tan \rightarrow -, \cot \rightarrow -$


Examples:
 1. $\sin \alpha = \sin 110^\circ \rightarrow$ (acute angle) $\rightarrow \sin 110^\circ = \sin 70^\circ = \frac{\sqrt{3}}{2}$
 2. $\cos \alpha = \cos 110^\circ \rightarrow$ (obtuse angle) $\rightarrow \cos 110^\circ = -\cos 70^\circ = -\frac{1}{2}$
 3. $\tan \alpha = \tan 110^\circ \rightarrow$ (obtuse angle) $\rightarrow \tan 110^\circ = -\tan 70^\circ = -\frac{\sqrt{3}}{3}$
 4. $\cot \alpha = \cot 110^\circ \rightarrow$ (obtuse angle) $\rightarrow \cot 110^\circ = -\cot 70^\circ = -\frac{1}{\sqrt{3}}$

Examples:
 1. $\sin \alpha = +\frac{1}{2} \rightarrow$ (acute angle) $\rightarrow \sin 30^\circ = \frac{1}{2}$
 2. $\cos \alpha = -\frac{1}{2} \rightarrow$ (obtuse angle) $\rightarrow \cos 120^\circ = -\frac{1}{2}$
 3. $\tan \alpha = \frac{\sqrt{3}}{3} \rightarrow$ (acute angle) $\rightarrow \tan 30^\circ = \frac{\sqrt{3}}{3}$
 4. $\cot \alpha = -\frac{1}{\sqrt{3}} \rightarrow$ (obtuse angle) $\rightarrow \cot 120^\circ = -\frac{1}{\sqrt{3}}$

Examples:
 1. $\sin \alpha = -1 \rightarrow$ (obtuse angle) $\rightarrow \sin 270^\circ = -1$
 2. $\cos \alpha = \frac{\sqrt{3}}{2} \rightarrow$ (acute angle) $\rightarrow \cos 30^\circ = \frac{\sqrt{3}}{2}$
 3. $\tan \alpha = -\frac{\sqrt{3}}{3} \rightarrow$ (obtuse angle) $\rightarrow \tan 150^\circ = -\frac{\sqrt{3}}{3}$
 4. $\cot \alpha = \frac{1}{\sqrt{3}} \rightarrow$ (acute angle) $\rightarrow \cot 60^\circ = \frac{1}{\sqrt{3}}$

$\cos \alpha = -\frac{\sqrt{3}}{2} \rightarrow$ (obtuse angle) $\rightarrow \cos 150^\circ = -\frac{\sqrt{3}}{2}$

4. و 120 درجه
 جواب