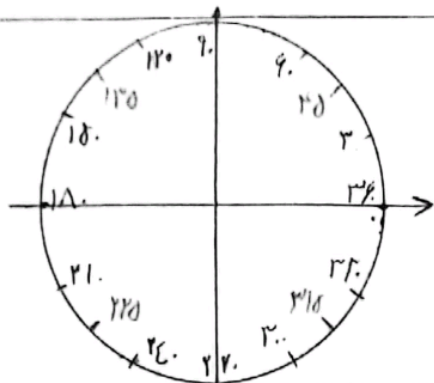


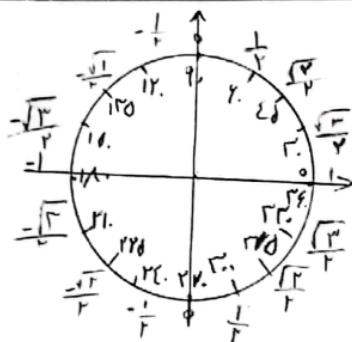
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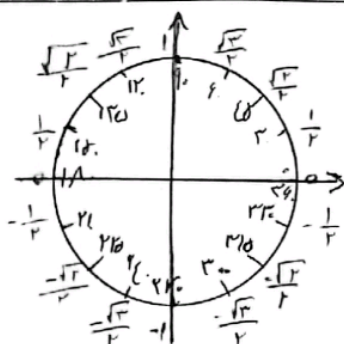
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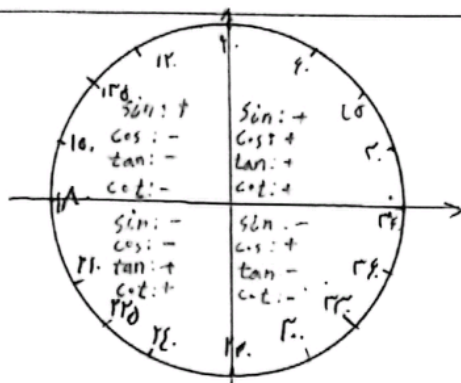
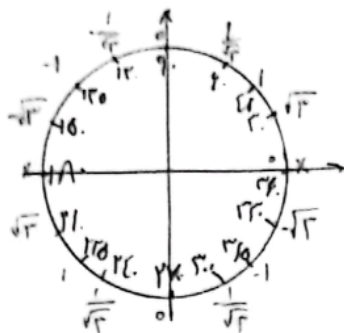
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أ) 1)

$$\sin \alpha = \sin 15^\circ$$

$$\sin \alpha = \frac{\sqrt{3}}{2}$$

$$\alpha = 60^\circ$$

$$\sin 60^\circ = \sin 15^\circ$$

ب)

$$\cos \alpha = \cos 10^\circ$$

$$\cos \alpha = -\frac{\sqrt{3}}{2}$$

$$\Rightarrow \alpha = 70^\circ$$

$$\cos 70^\circ = \cos 10^\circ$$

ج)

$$\tan \alpha = \tan 15^\circ$$

$$\tan \alpha = -\frac{1}{\sqrt{3}}$$

$$\alpha = 150^\circ$$

$$\tan 150^\circ = \tan 15^\circ$$

د)

$$\cot \alpha = \cot 15^\circ$$

$$\cot \alpha = -1$$

$$\Rightarrow \alpha = 135^\circ$$

$$\cot 135^\circ = \cot 15^\circ = -1$$

هـ) 1)

$$\sin \alpha = -\cos \frac{5\pi}{4}$$

$$\sin \alpha = -(-\frac{1}{\sqrt{2}})$$

$$\sin \alpha = \frac{1}{\sqrt{2}}$$

$$\left\{ \begin{array}{l} \alpha = 45^\circ \rightarrow \frac{\pi}{4} \\ \alpha = 135^\circ \rightarrow \frac{3\pi}{4} \end{array} \right.$$

$$\left\{ \begin{array}{l} \alpha = 45^\circ \rightarrow \frac{\pi}{4} \\ \alpha = 135^\circ \rightarrow \frac{3\pi}{4} \end{array} \right.$$

ب)

$$\sin \alpha = -(\cos \frac{11\pi}{4})$$

$$\sin \alpha = -(\frac{\sqrt{3}}{2})$$

$$\left\{ \begin{array}{l} \alpha = 210^\circ \rightarrow \frac{7\pi}{6} \\ \alpha = 330^\circ \rightarrow \frac{11\pi}{6} \end{array} \right.$$

و) 1)

$$\cos \alpha = \cot \frac{5\pi}{4}$$

$$\cos \alpha = -1$$

$$\alpha = 180^\circ \rightarrow \pi$$

ب)

$$\sin \alpha = -(\cos 18^\circ)$$

$$\sin \alpha = -(\frac{\sqrt{3}}{2})$$

$$\sin \alpha = \frac{\sqrt{3}}{2}$$

$$\left\{ \begin{array}{l} \alpha = 45^\circ \rightarrow \frac{\pi}{4} \\ \alpha = 135^\circ \rightarrow \frac{3\pi}{4} \end{array} \right.$$