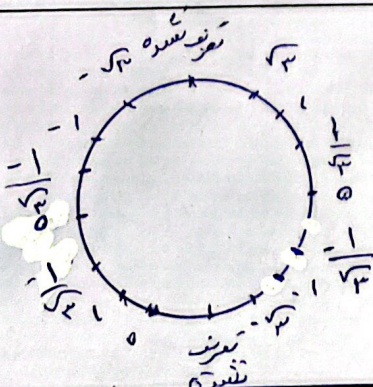
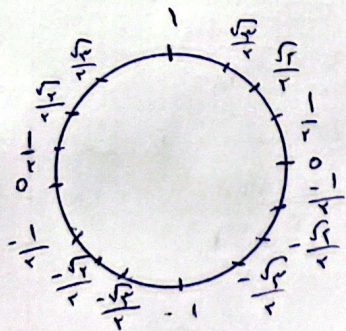
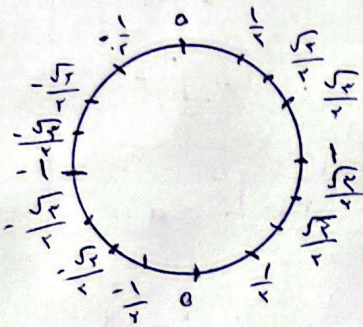
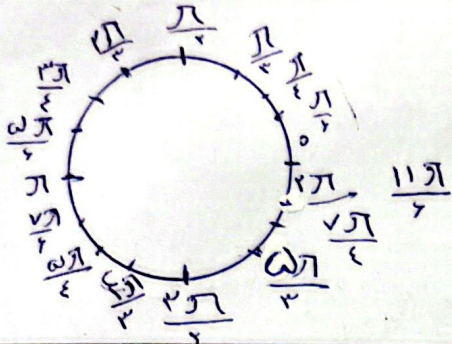
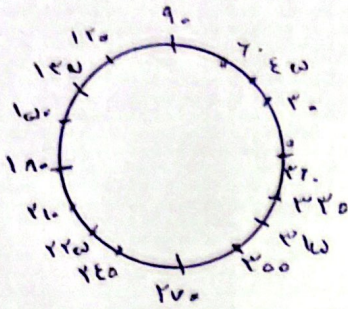
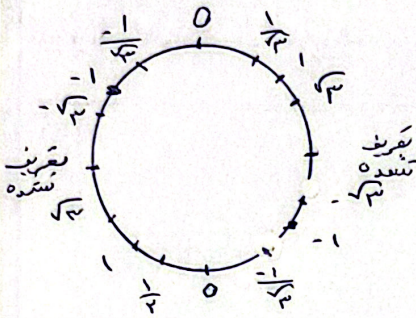


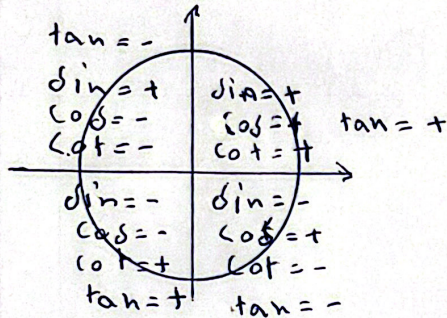


$$\tan = \frac{\sin}{\cos}$$

$$\rightarrow \frac{-1/2}{-1/2} = 1$$



$$\cot = \frac{\cos}{\sin}$$



$$\begin{aligned} \sin 45^\circ &= \frac{\sqrt{2}}{2} & \sin x &= \frac{\sqrt{2}}{2} \Rightarrow x = 45^\circ \rightarrow \text{الف} \\ \cos 135^\circ &= -\frac{\sqrt{2}}{2} & \cos x &= -\frac{\sqrt{2}}{2} \Rightarrow x = 135^\circ \rightarrow \text{ب} \\ \tan 225^\circ &= \frac{\sin 225^\circ}{\cos 225^\circ} = \frac{-\frac{1}{\sqrt{2}}}{-\frac{1}{\sqrt{2}}} = 1 & \tan x &= 1 \Rightarrow x = 45^\circ \rightarrow \text{ج} \\ \cot 135^\circ &= \frac{\cos 135^\circ}{\sin 135^\circ} = \frac{-\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = -1 & \cot x &= -1 \Rightarrow x = 135^\circ \rightarrow \text{د} \end{aligned}$$

$$\begin{aligned} \cos \frac{2\pi}{3} &= \cos 120^\circ = -\frac{1}{2} \Rightarrow \frac{1}{2} \Rightarrow \sin x = \frac{1}{2} \rightarrow \text{الف} \\ &\text{جواب: } \frac{2\pi}{3} \text{ و } \frac{4\pi}{3} & \Rightarrow x &= 30^\circ \Rightarrow \frac{\pi}{6} \\ & & & \Rightarrow x = 150^\circ \Rightarrow \frac{5\pi}{6} \\ \cos \frac{4\pi}{3} &= \cos 240^\circ = -\frac{1}{2} \Rightarrow \frac{\sqrt{3}}{2} \Rightarrow \sin x = -\frac{\sqrt{3}}{2} \rightarrow \text{ب} \\ &\text{جواب: } \frac{4\pi}{3} \text{ و } \frac{5\pi}{3} & \Rightarrow x &= 240^\circ \Rightarrow \frac{4\pi}{3} \\ & & & \Rightarrow x = 300^\circ \Rightarrow \frac{5\pi}{3} \end{aligned}$$

$$\begin{aligned} \cot \frac{5\pi}{4} &= \cot 225^\circ = \frac{\cos 225^\circ}{\sin 225^\circ} = \frac{-\frac{\sqrt{2}}{2}}{-\frac{\sqrt{2}}{2}} = 1 \Rightarrow \cos x = -1 \rightarrow \text{الف} \\ &\text{جواب: } \frac{5\pi}{4} & \Rightarrow x &= 180^\circ \\ \cos 150^\circ &= -\frac{\sqrt{3}}{2} \Rightarrow \frac{\sqrt{3}}{2} \Rightarrow \sin x = \frac{\sqrt{3}}{2} \Rightarrow x = 60^\circ \rightarrow \text{ب} \\ &\text{جواب: } 120^\circ \text{ و } 60^\circ & & \Rightarrow x = 120^\circ \end{aligned}$$