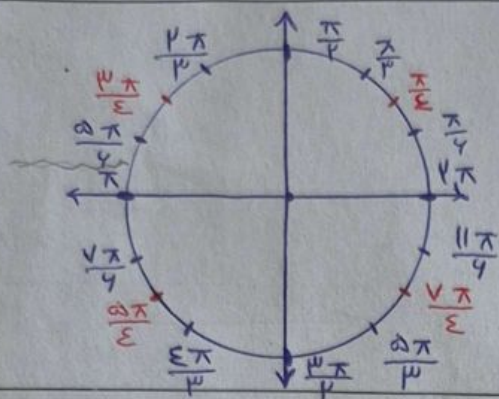
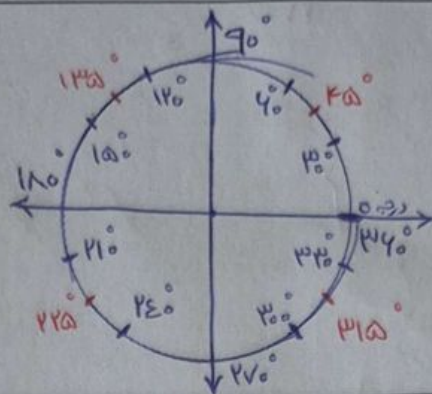
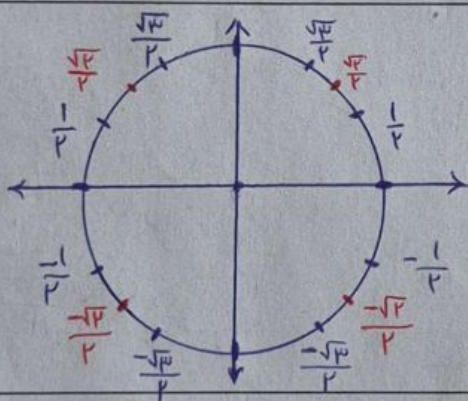
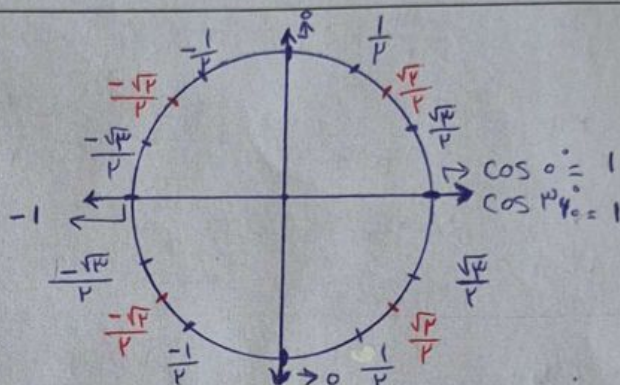
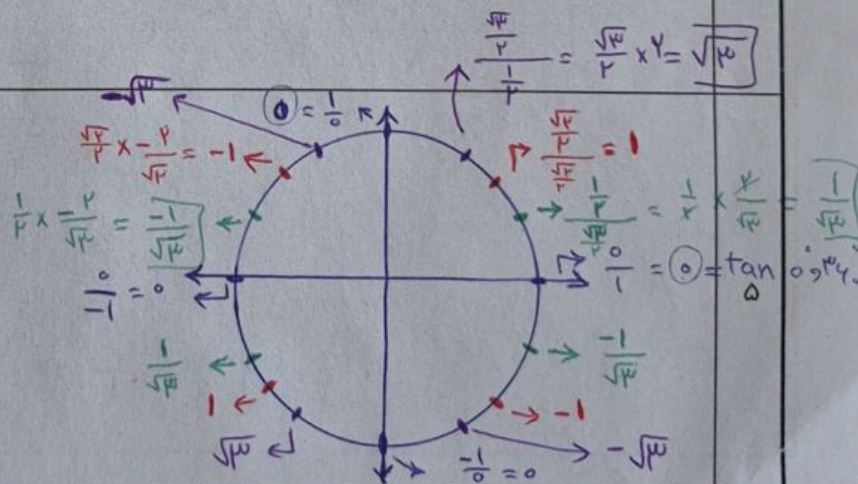




$\frac{x}{r} \rightarrow \cos \alpha = x$



$\frac{y}{r} \rightarrow \sin \alpha = y$



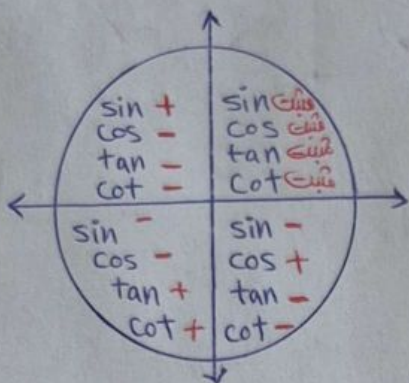
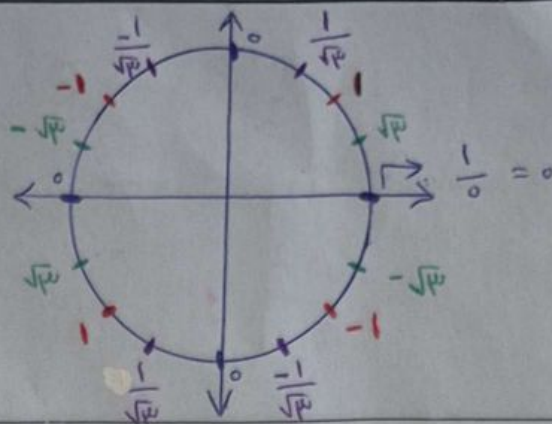
$\tan \alpha = \frac{\sin \alpha}{\cos \alpha}$

$\tan 0^\circ = \frac{1}{\infty} = 0$

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

$$\downarrow$$

$$\cot 90^\circ = \cot 90^\circ = \frac{0}{1} = 0$$



$$\sin 14^\circ = \frac{\sqrt{2}}{2} \Rightarrow \sin \alpha = \frac{\sqrt{2}}{2} \Rightarrow \alpha = 45^\circ \quad \leftarrow \text{الف}$$

$$\cos 150^\circ = -\frac{\sqrt{3}}{2} \Rightarrow \cos \alpha = -\frac{\sqrt{3}}{2} \Rightarrow \alpha = 210^\circ \quad \leftarrow \text{ب}$$

$$\tan 135^\circ = \frac{\sin 135^\circ}{\cos 135^\circ} = \frac{\frac{\sqrt{2}}{2}}{-\frac{\sqrt{2}}{2}} = -1 \Rightarrow \tan \alpha = -1 \Rightarrow \alpha = 135^\circ \quad \leftarrow \text{ج}$$

$$\cot 135^\circ = \frac{\cos 135^\circ}{\sin 135^\circ} = \frac{-\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = -1 \Rightarrow \cot \alpha = -1 \Rightarrow \alpha = 135^\circ \quad \leftarrow \text{د}$$

$$\frac{2\pi}{3} \text{ (راديان)} \rightarrow \text{درجی} = 120^\circ \Rightarrow \cos \frac{2\pi}{3} = -\frac{1}{2} \Rightarrow \cos \alpha = -\frac{1}{2} \Rightarrow \alpha = 120^\circ \quad \leftarrow \text{الف}$$

$$\sin \alpha = \frac{1}{2} \Rightarrow \alpha = \frac{\pi}{6} \text{ or } \frac{5\pi}{6}$$

$$\cos \frac{11\pi}{6} = \frac{\sqrt{3}}{2} \Rightarrow \cos \alpha = \frac{\sqrt{3}}{2} \Rightarrow \sin \alpha = -\frac{1}{2} \Rightarrow \alpha = \frac{7\pi}{6} \text{ or } \frac{11\pi}{6}$$

$$\star \cot \alpha = \frac{\cos \alpha}{\sin \alpha} \Rightarrow \cot \frac{\sqrt{\pi}}{2} = \frac{\frac{\sqrt{2}}{2}}{-\frac{\sqrt{2}}{2}} = -1$$

$$\rightarrow \cos \alpha = -1 \Rightarrow \alpha = 180^\circ$$

$$\cos 150^\circ = -\frac{\sqrt{3}}{2} \Rightarrow \cos \alpha = -\frac{\sqrt{3}}{2} \Rightarrow \sin \alpha = \frac{1}{2} \Rightarrow \alpha = 150^\circ \text{ or } 210^\circ$$