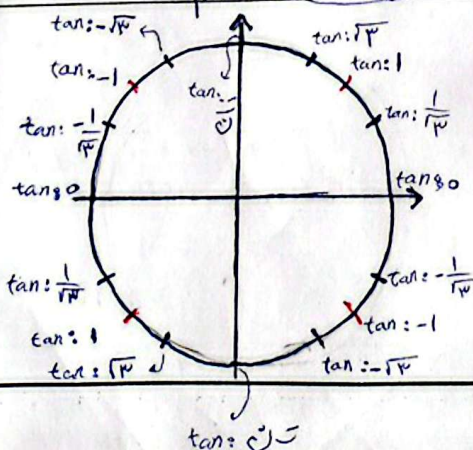
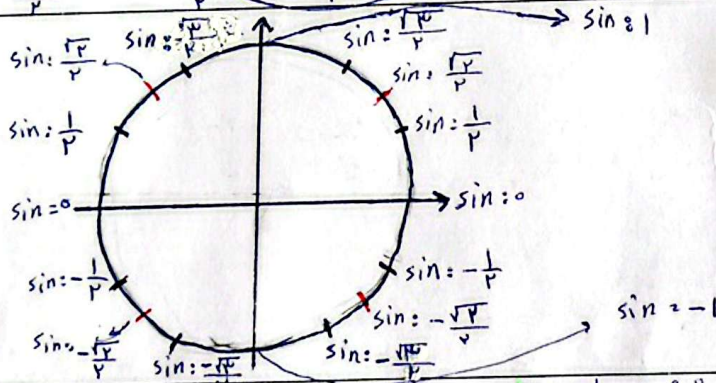
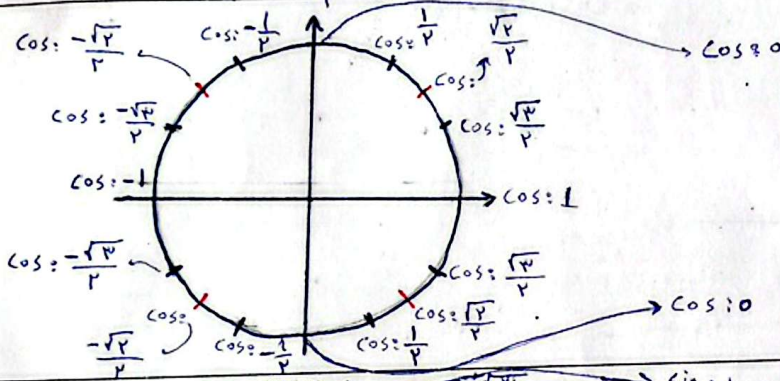
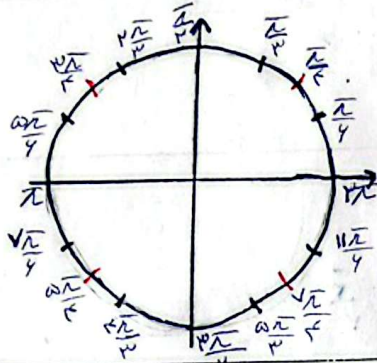
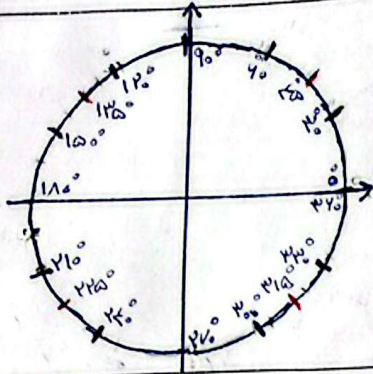
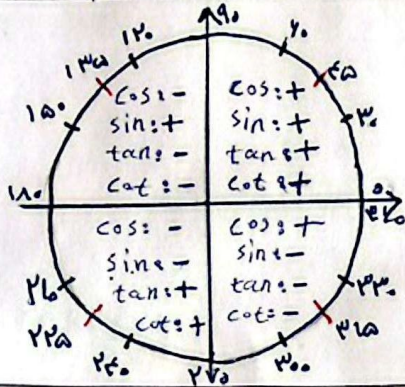
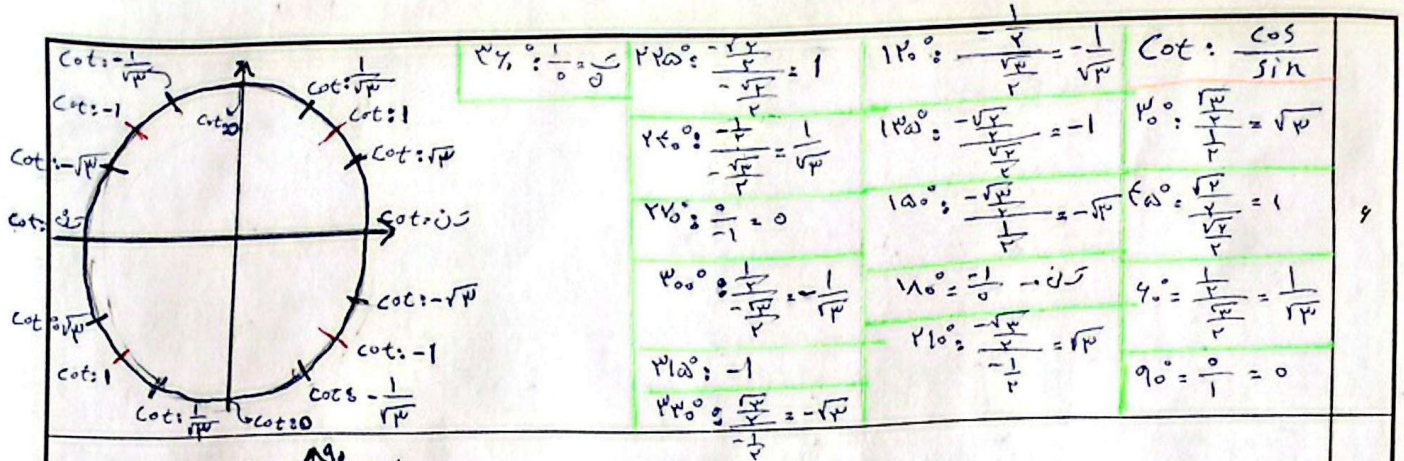




|                                                 |                                                                                |
|-------------------------------------------------|--------------------------------------------------------------------------------|
| $\cos 0 = \frac{1}{1} = 1$                      | $\cos 90^\circ = \frac{0}{1} = 0$                                              |
| $\cos 30^\circ = \frac{\sqrt{3}}{2}$            | $\cos 120^\circ = \frac{-1}{2} = -\frac{1}{2}$                                 |
| $\cos 45^\circ = \frac{\sqrt{2}}{2}$            | $\cos 135^\circ = \frac{-\sqrt{2}}{2} = -\frac{\sqrt{2}}{2}$                   |
| $\cos 60^\circ = \frac{1}{2}$                   | $\cos 150^\circ = \frac{-\sqrt{3}}{2} = -\frac{\sqrt{3}}{2}$                   |
| $\cos 75^\circ = \frac{\sqrt{6}-\sqrt{2}}{4}$   | $\cos 165^\circ = \frac{-\sqrt{6}-\sqrt{2}}{4} = -\frac{\sqrt{6}+\sqrt{2}}{4}$ |
| $\cos 90^\circ = 0$                             | $\cos 180^\circ = \frac{-1}{1} = -1$                                           |
| $\cos 105^\circ = \frac{\sqrt{6}-\sqrt{2}}{4}$  | $\cos 210^\circ = \frac{-\sqrt{3}}{2} = -\frac{\sqrt{3}}{2}$                   |
| $\cos 120^\circ = -\frac{1}{2}$                 | $\cos 225^\circ = \frac{-\sqrt{2}}{2} = -\frac{\sqrt{2}}{2}$                   |
| $\cos 135^\circ = -\frac{\sqrt{2}}{2}$          | $\cos 240^\circ = \frac{-1}{2} = -\frac{1}{2}$                                 |
| $\cos 150^\circ = -\frac{\sqrt{3}}{2}$          | $\cos 270^\circ = 0$                                                           |
| $\cos 165^\circ = \frac{-\sqrt{6}-\sqrt{2}}{4}$ | $\cos 300^\circ = \frac{1}{2}$                                                 |
| $\cos 180^\circ = -1$                           | $\cos 315^\circ = \frac{\sqrt{2}}{2}$                                          |
| $\cos 195^\circ = \frac{-\sqrt{6}+\sqrt{2}}{4}$ | $\cos 330^\circ = \frac{\sqrt{3}}{2}$                                          |
| $\cos 210^\circ = -\frac{\sqrt{3}}{2}$          | $\cos 345^\circ = \frac{\sqrt{6}-\sqrt{2}}{4}$                                 |
| $\cos 225^\circ = -\frac{\sqrt{2}}{2}$          | $\cos 360^\circ = 1$                                                           |
| $\cos 240^\circ = -\frac{1}{2}$                 |                                                                                |
| $\cos 255^\circ = \frac{-\sqrt{6}+\sqrt{2}}{4}$ |                                                                                |
| $\cos 270^\circ = 0$                            |                                                                                |
| $\cos 285^\circ = \frac{\sqrt{6}-\sqrt{2}}{4}$  |                                                                                |
| $\cos 300^\circ = \frac{1}{2}$                  |                                                                                |
| $\cos 315^\circ = \frac{\sqrt{2}}{2}$           |                                                                                |
| $\cos 330^\circ = \frac{\sqrt{3}}{2}$           |                                                                                |
| $\cos 345^\circ = \frac{\sqrt{6}-\sqrt{2}}{4}$  |                                                                                |
| $\cos 360^\circ = 1$                            |                                                                                |

|                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $\tan 0 = \frac{\sin 0}{\cos 0} = \frac{0}{1} = 0$                                                                                                              |
| $\tan 30^\circ = \frac{\sin 30^\circ}{\cos 30^\circ} = \frac{1/2}{\sqrt{3}/2} = \frac{1}{\sqrt{3}}$                                                             |
| $\tan 45^\circ = \frac{\sin 45^\circ}{\cos 45^\circ} = \frac{\sqrt{2}/2}{\sqrt{2}/2} = 1$                                                                       |
| $\tan 60^\circ = \frac{\sin 60^\circ}{\cos 60^\circ} = \frac{\sqrt{3}/2}{1/2} = \sqrt{3}$                                                                       |
| $\tan 75^\circ = \frac{\sin 75^\circ}{\cos 75^\circ} = \frac{\sqrt{6}+\sqrt{2}}{4} / \frac{\sqrt{6}-\sqrt{2}}{4} = \frac{\sqrt{6}+\sqrt{2}}{\sqrt{6}-\sqrt{2}}$ |
| $\tan 90^\circ$ is undefined                                                                                                                                    |
| $\tan 105^\circ = \frac{\sin 105^\circ}{\cos 105^\circ} = \frac{\sqrt{6}-\sqrt{2}}{4} / \frac{\sqrt{6}-\sqrt{2}}{4} = 1$                                        |
| $\tan 120^\circ = \frac{\sin 120^\circ}{\cos 120^\circ} = \frac{\sqrt{3}/2}{-1/2} = -\sqrt{3}$                                                                  |
| $\tan 135^\circ = \frac{\sin 135^\circ}{\cos 135^\circ} = \frac{\sqrt{2}/2}{-\sqrt{2}/2} = -1$                                                                  |
| $\tan 150^\circ = \frac{\sin 150^\circ}{\cos 150^\circ} = \frac{1/2}{-\sqrt{3}/2} = -\frac{1}{\sqrt{3}}$                                                        |
| $\tan 165^\circ = \frac{\sin 165^\circ}{\cos 165^\circ} = \frac{\sqrt{6}-\sqrt{2}}{4} / \frac{\sqrt{6}-\sqrt{2}}{4} = 1$                                        |
| $\tan 180^\circ = 0$                                                                                                                                            |
| $\tan 195^\circ = \frac{\sin 195^\circ}{\cos 195^\circ} = \frac{\sqrt{6}-\sqrt{2}}{4} / \frac{\sqrt{6}-\sqrt{2}}{4} = 1$                                        |
| $\tan 210^\circ = \frac{\sin 210^\circ}{\cos 210^\circ} = \frac{-1/2}{-\sqrt{3}/2} = \frac{1}{\sqrt{3}}$                                                        |
| $\tan 225^\circ = \frac{\sin 225^\circ}{\cos 225^\circ} = \frac{-\sqrt{2}/2}{-\sqrt{2}/2} = 1$                                                                  |
| $\tan 240^\circ = \frac{\sin 240^\circ}{\cos 240^\circ} = \frac{-\sqrt{3}/2}{-1/2} = \sqrt{3}$                                                                  |
| $\tan 255^\circ = \frac{\sin 255^\circ}{\cos 255^\circ} = \frac{\sqrt{6}-\sqrt{2}}{4} / \frac{\sqrt{6}-\sqrt{2}}{4} = 1$                                        |
| $\tan 270^\circ$ is undefined                                                                                                                                   |
| $\tan 285^\circ = \frac{\sin 285^\circ}{\cos 285^\circ} = \frac{\sqrt{6}-\sqrt{2}}{4} / \frac{\sqrt{6}-\sqrt{2}}{4} = 1$                                        |
| $\tan 300^\circ = \frac{\sin 300^\circ}{\cos 300^\circ} = \frac{-1/2}{1/2} = -1$                                                                                |
| $\tan 315^\circ = \frac{\sin 315^\circ}{\cos 315^\circ} = \frac{-\sqrt{2}/2}{\sqrt{2}/2} = -1$                                                                  |
| $\tan 330^\circ = \frac{\sin 330^\circ}{\cos 330^\circ} = \frac{-\sqrt{3}/2}{\sqrt{3}/2} = -\sqrt{3}$                                                           |
| $\tan 345^\circ = \frac{\sin 345^\circ}{\cos 345^\circ} = \frac{\sqrt{6}-\sqrt{2}}{4} / \frac{\sqrt{6}-\sqrt{2}}{4} = 1$                                        |
| $\tan 360^\circ = 0$                                                                                                                                            |



$$\sin 120^\circ = \frac{\sqrt{3}}{2} \rightarrow \sin 60^\circ = \frac{\sqrt{3}}{2} \rightarrow \boxed{60^\circ} \quad \text{الف}$$

$$\cos 150^\circ = -\frac{\sqrt{3}}{2} \rightarrow \cos 30^\circ = \frac{\sqrt{3}}{2} \rightarrow \boxed{30^\circ} \quad \text{ب}$$

$$\tan 210^\circ = \frac{1}{\sqrt{3}} = \frac{1}{\sqrt{3}} \rightarrow \tan 30^\circ = \frac{1}{\sqrt{3}} \rightarrow \boxed{30^\circ} \quad \text{ج}$$

$$\cot 135^\circ = -1 \rightarrow \cot 45^\circ = 1 \rightarrow \boxed{45^\circ} \quad \text{د}$$

$$\frac{2\pi}{3} = 120^\circ \rightarrow \cos 120^\circ = -\frac{1}{2} \xrightarrow{\text{قرينة}} \frac{1}{2} \Rightarrow \sin 60^\circ, \sin 30^\circ \quad \text{الف}$$

$$\frac{5\pi}{3} = 300^\circ \rightarrow \cos 300^\circ = \frac{1}{2} \xrightarrow{\text{قرينة}} -\frac{\sqrt{3}}{2} \Rightarrow \sin 240^\circ, \sin 120^\circ \quad \text{ب}$$

$$\frac{3\pi}{2} = 270^\circ \rightarrow \cot 270^\circ = \frac{\sqrt{3}}{-\sqrt{3}} = -1 \Rightarrow \cos 90^\circ = 0 \quad \text{الف}$$

$$\rightarrow \boxed{90^\circ}$$

$$\cos 150^\circ = -\frac{\sqrt{3}}{2} \xrightarrow{\text{قرينة}} \frac{\sqrt{3}}{2} \Rightarrow \sin 60^\circ, \sin 30^\circ \quad \text{ب}$$

$$\rightarrow \boxed{60^\circ}, \boxed{30^\circ}$$