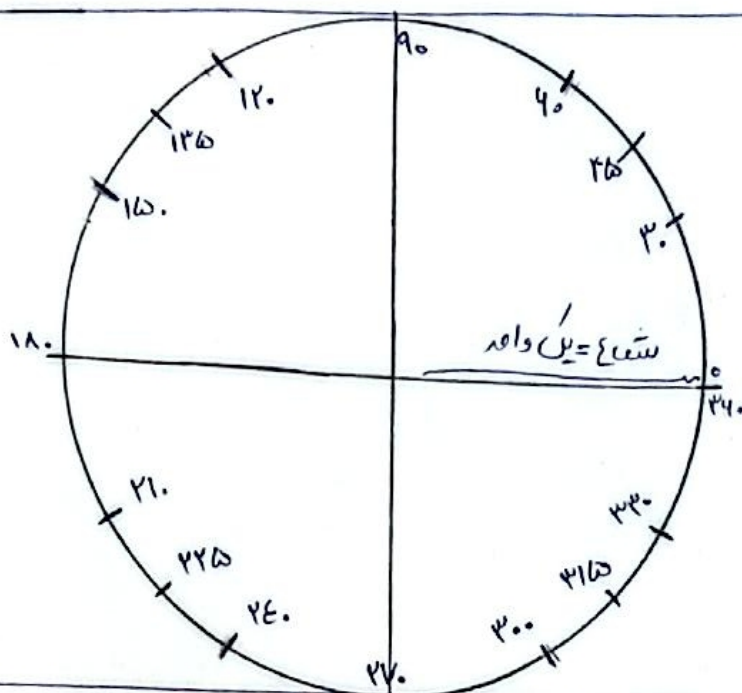
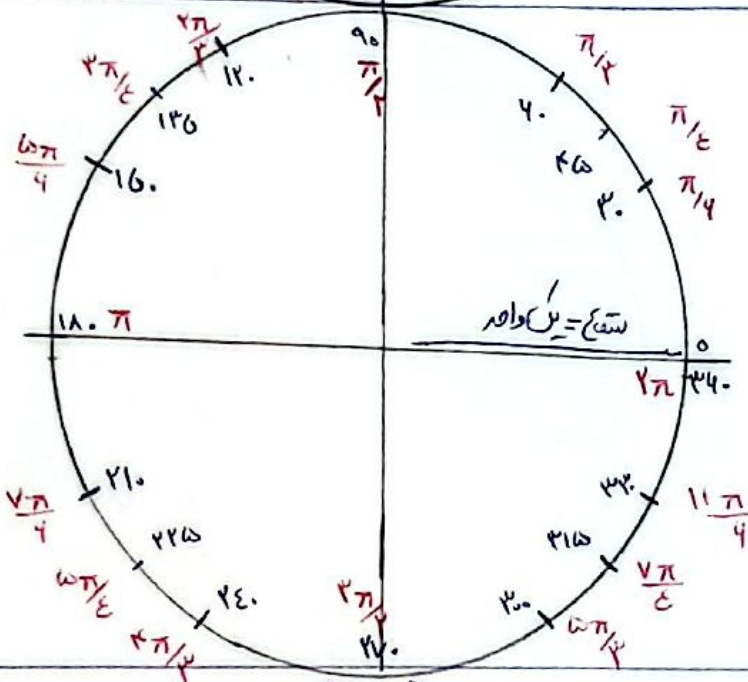


نام و نام خانوادگی: پیرنیا علیی ✓ پاسخ نامه تست تالیف شما در ۲۰ اسکرین و در فصل

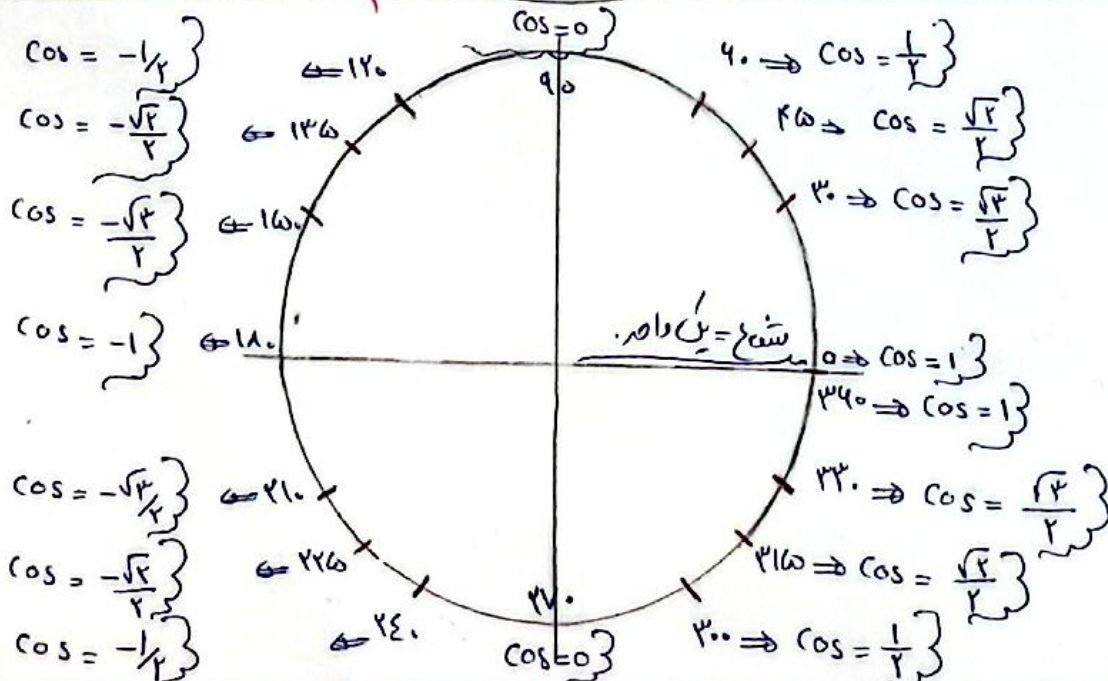
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$$\sin = \frac{\sqrt{3}}{2}$$

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

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

$$\sin = 0$$

$$\sin = -\frac{1}{2}$$

$$\sin = -\frac{\sqrt{2}}{2}$$

$$\sin = -\frac{\sqrt{2}}{2}$$

$$90^\circ \Rightarrow \sin = 1$$

$$120^\circ$$

$$135^\circ$$

$$150^\circ$$

$$180^\circ$$

$$210^\circ$$

$$225^\circ$$

$$240^\circ$$

$$270^\circ$$

$$270^\circ \Rightarrow \sin = -1$$

$$45^\circ \Rightarrow \sin = \frac{\sqrt{2}}{2}$$

$$60^\circ \Rightarrow \sin = \frac{\sqrt{3}}{2}$$

$$75^\circ \Rightarrow \sin = \frac{\sqrt{2}}{2}$$

$$90^\circ \Rightarrow \sin = 0$$

$$105^\circ \Rightarrow \sin = 0$$

$$135^\circ \Rightarrow \sin = -\frac{1}{2}$$

$$150^\circ \Rightarrow \sin = -\frac{\sqrt{2}}{2}$$

$$165^\circ \Rightarrow \sin = -\frac{\sqrt{2}}{2}$$

شعاع = 1 واحد

$$\tan = \frac{1}{0} \Rightarrow \text{تقریباً نشدہ}$$

$$45^\circ \Rightarrow \tan = \frac{\sqrt{2}}{1} = \sqrt{2}$$

$$60^\circ \Rightarrow \tan = \frac{\sqrt{3}}{1} = \sqrt{3}$$

$$75^\circ \Rightarrow \tan = \frac{1}{\frac{1}{\sqrt{2}}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$90^\circ \Rightarrow \tan = 0$$

$$105^\circ \Rightarrow \tan = 0$$

$$135^\circ \Rightarrow \tan = \frac{1}{\frac{1}{\sqrt{2}}} = -\frac{\sqrt{2}}{2}$$

$$150^\circ \Rightarrow \tan = \frac{-\sqrt{3}}{1} = -\sqrt{3}$$

$$165^\circ \Rightarrow \tan = \frac{-1}{\frac{1}{\sqrt{2}}} = -\sqrt{2}$$

$$\tan = -\frac{1}{0} \Rightarrow \text{تقریباً نشدہ}$$

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

نکات:

$$\tan = \frac{\frac{\sqrt{2}}{2}}{-\frac{1}{\sqrt{2}}} = -\sqrt{2}$$

$$\tan = \frac{\frac{\sqrt{2}}{2}}{-\frac{1}{\sqrt{2}}} = -1$$

$$\tan = \frac{\frac{1}{\sqrt{2}}}{-\frac{\sqrt{2}}{2}} = -\frac{\sqrt{2}}{2}$$

$$\tan = 0$$

$$\tan = \frac{\frac{1}{\sqrt{2}}}{\frac{\sqrt{2}}{2}} = \frac{\sqrt{2}}{2}$$

$$\tan = \frac{\frac{1}{\sqrt{2}}}{\frac{\sqrt{2}}{2}} = 1$$

$$\tan = \frac{-\frac{\sqrt{2}}{2}}{-\frac{1}{\sqrt{2}}} = \sqrt{2}$$

$$\cot = \frac{-\frac{1}{\sqrt{2}}}{\frac{\sqrt{2}}{2}} = -\frac{\sqrt{2}}{2}$$

$$\cot = \frac{-\frac{\sqrt{2}}{2}}{\frac{1}{\sqrt{2}}} = -1$$

$$\cot = \frac{-\frac{\sqrt{2}}{2}}{\frac{1}{\sqrt{2}}} = -\sqrt{2}$$

$$\cot = \frac{-1}{0} \Rightarrow \text{تقریباً نشدہ}$$

$$\cot = \frac{-\frac{1}{\sqrt{2}}}{-\frac{\sqrt{2}}{2}} = \frac{\sqrt{2}}{2}$$

$$\cot = \frac{-\frac{1}{\sqrt{2}}}{-\frac{\sqrt{2}}{2}} = 1$$

$$\cot = \frac{\frac{1}{\sqrt{2}}}{\frac{\sqrt{2}}{2}} = \frac{\sqrt{2}}{2}$$

$$\cot = 0$$

$$45^\circ \Rightarrow \cot = \frac{1}{\frac{1}{\sqrt{2}}} = \frac{\sqrt{2}}{2}$$

$$60^\circ \Rightarrow \cot = \frac{\sqrt{3}}{1} = \sqrt{3}$$

$$75^\circ \Rightarrow \cot = \frac{\sqrt{2}}{1} = \sqrt{2}$$

$$90^\circ \Rightarrow \cot = 0$$

$$105^\circ \Rightarrow \cot = 0$$

$$135^\circ \Rightarrow \cot = \frac{\sqrt{2}}{-1} = -\sqrt{2}$$

$$150^\circ \Rightarrow \cot = \frac{-\sqrt{3}}{-1} = \sqrt{3}$$

$$165^\circ \Rightarrow \cot = \frac{-1}{-\frac{1}{\sqrt{2}}} = \frac{\sqrt{2}}{2}$$

$$\cot = 0$$

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

نکات:

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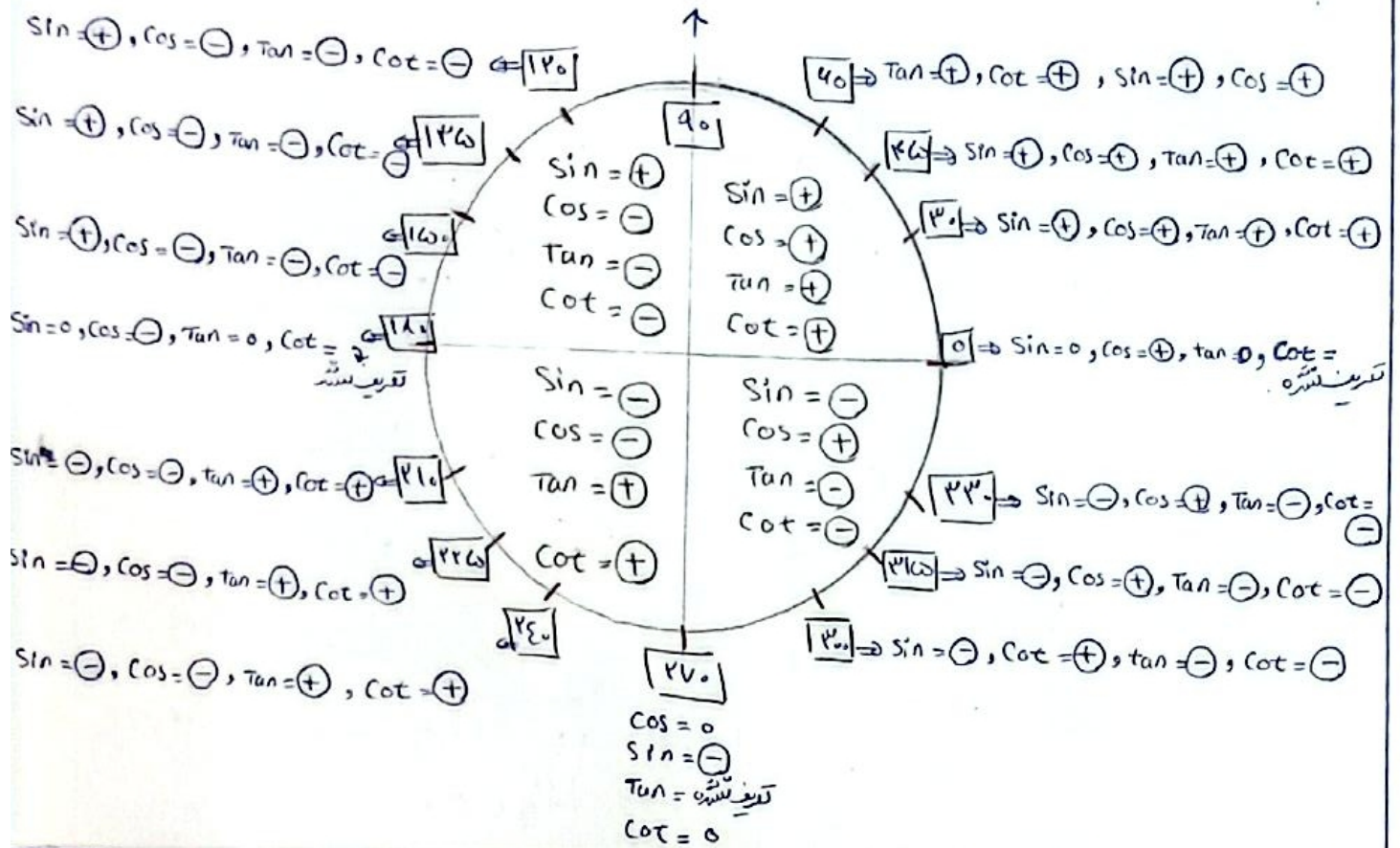
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$$\begin{aligned}\sin &= (+) \\ \cos &= 0 \\ \tan &= \text{تعیین نشده} \\ \cot &= 0\end{aligned}$$

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$$\sin 110^\circ = \frac{\sqrt{2}}{2} \Rightarrow \sin 110^\circ = \sin 70^\circ = \frac{\sqrt{2}}{2}$$

$$\cos 160^\circ = -\frac{\sqrt{2}}{2} \Rightarrow \cos 160^\circ = \cos 20^\circ = -\frac{\sqrt{2}}{2}$$

$$\tan 225^\circ = -\frac{\sqrt{2}}{2} \Rightarrow \tan 225^\circ = \tan 45^\circ = -\frac{\sqrt{2}}{2}$$

$$\cot 135^\circ = -1 \Rightarrow \cot 135^\circ = \cot 45^\circ = -1$$

$$\tan = -\sqrt{2}, \cot = -\frac{\sqrt{2}}{2}$$

$$\tan = -1, \cot = -1$$

$$\tan = -\frac{\sqrt{2}}{2}, \cot = -\sqrt{2}$$

$$\tan = 0, \cot = \text{تعیین نشده}$$

$$\tan = \frac{\sqrt{2}}{2}, \cot = \sqrt{2}$$

$$\tan = 1, \cot = 1$$

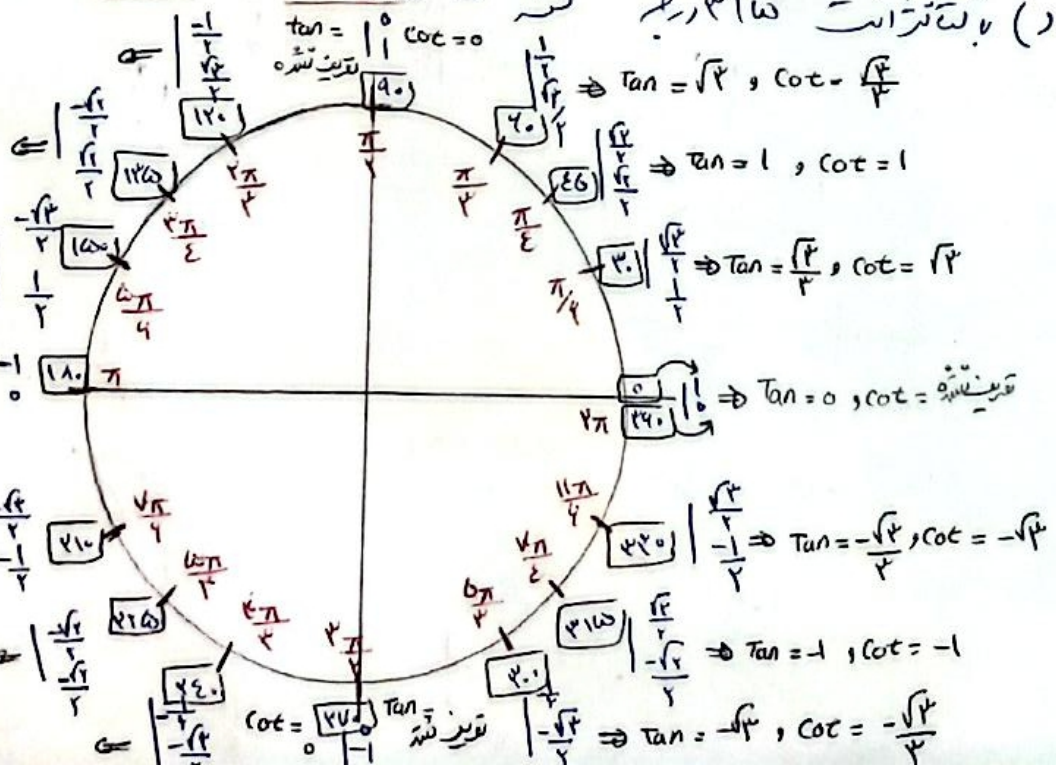
$$\cot = \frac{\sqrt{2}}{2}, \tan = \sqrt{2}$$

الف) با سینوس 40 درجه

ب) با کسینوس 20 درجه

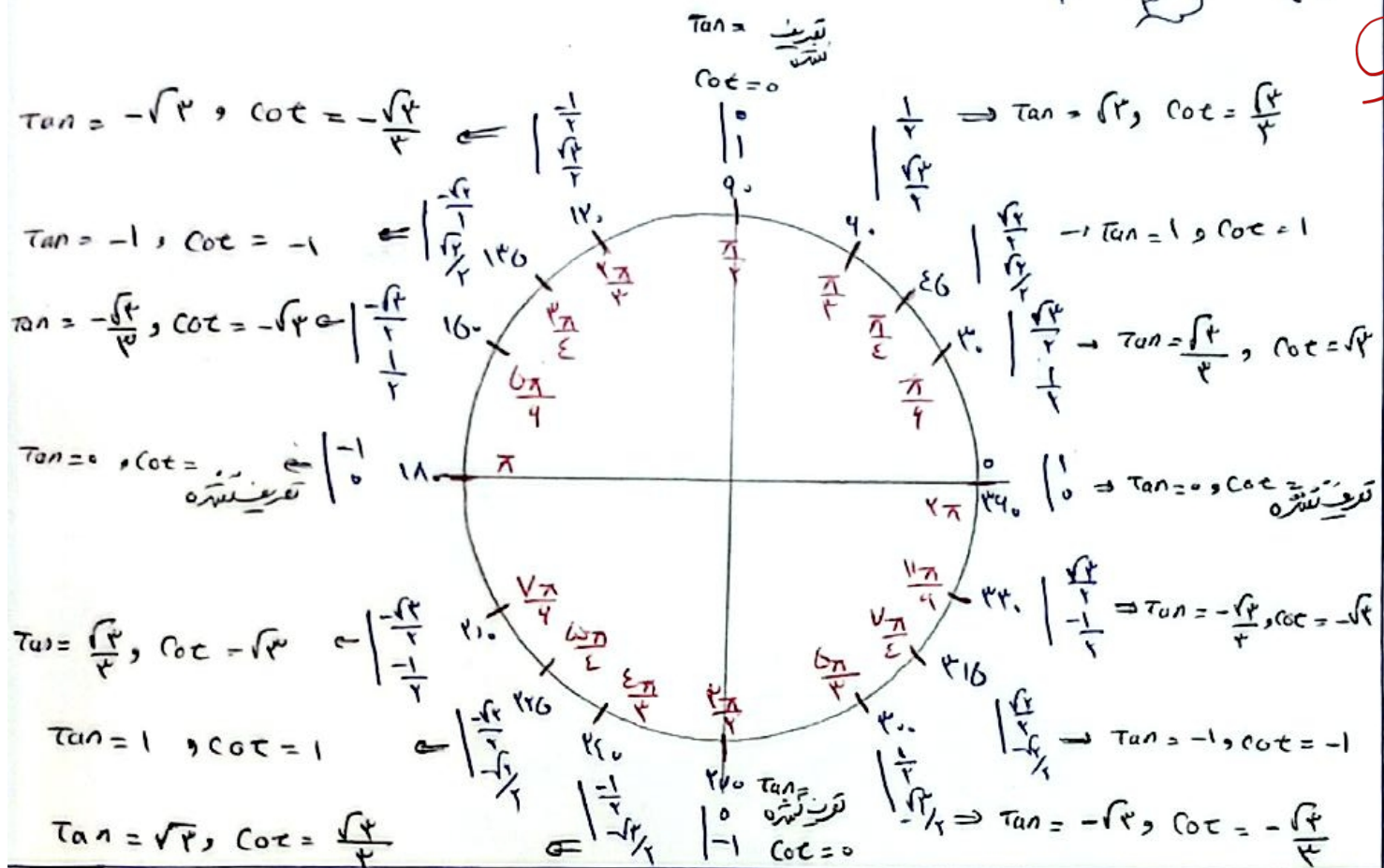
ج) با تانژانت 135 درجه

د) با کتانژانت 315 درجه



6

$-\cos 120^\circ = -\frac{1}{2} \Rightarrow \sin 120^\circ = \sin 60^\circ = \frac{\sqrt{3}}{2} \Rightarrow -\cos 120^\circ = \frac{\pi}{4}, \frac{\omega\pi}{3}$
 $-\cos 240^\circ = -\frac{1}{2} \Rightarrow \sin 240^\circ = \sin 120^\circ = \frac{\sqrt{3}}{2} \Rightarrow -\cos 240^\circ = \frac{5\pi}{4}, \frac{5\omega\pi}{3}$



$\cot 120^\circ = \frac{\cos}{\sin} = \frac{-\frac{1}{2}}{\frac{\sqrt{3}}{2}} = -\frac{1}{\sqrt{3}} \Rightarrow -1 = \cos 120^\circ$
 $-\cos 120^\circ = \frac{\sqrt{3}}{2} \Rightarrow \frac{\sqrt{3}}{2} = \sin 120^\circ = \sin 60^\circ$

