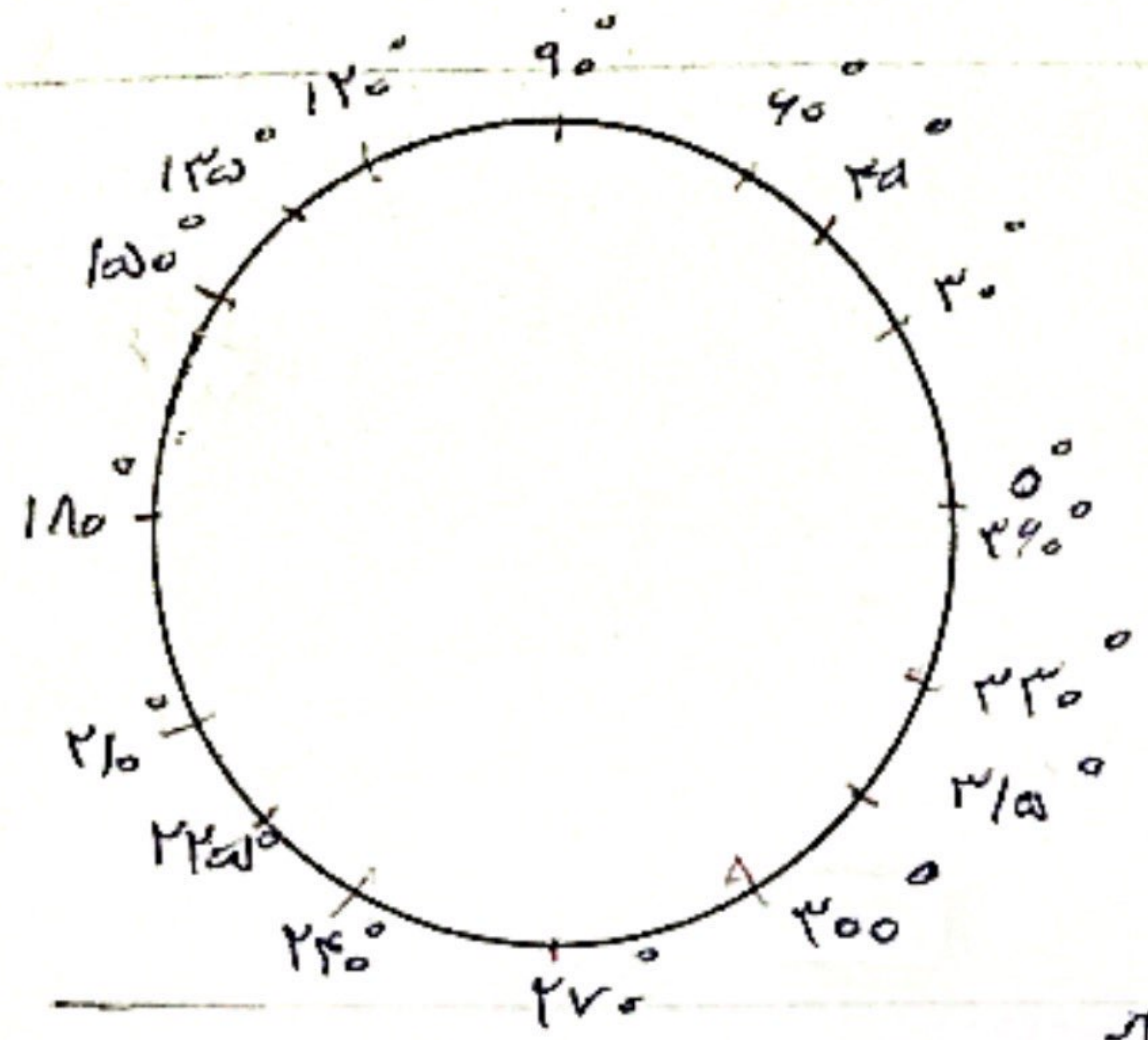
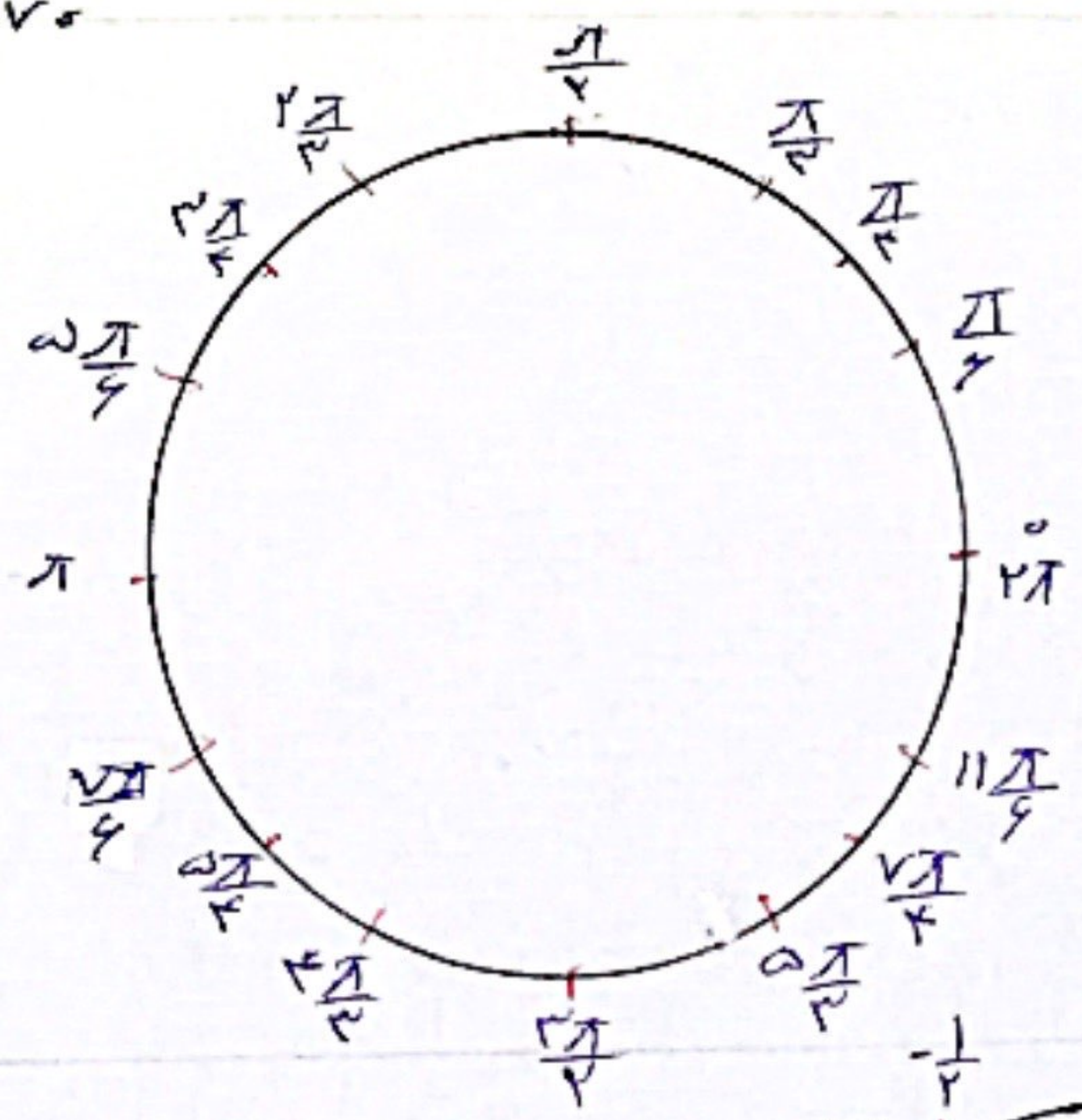


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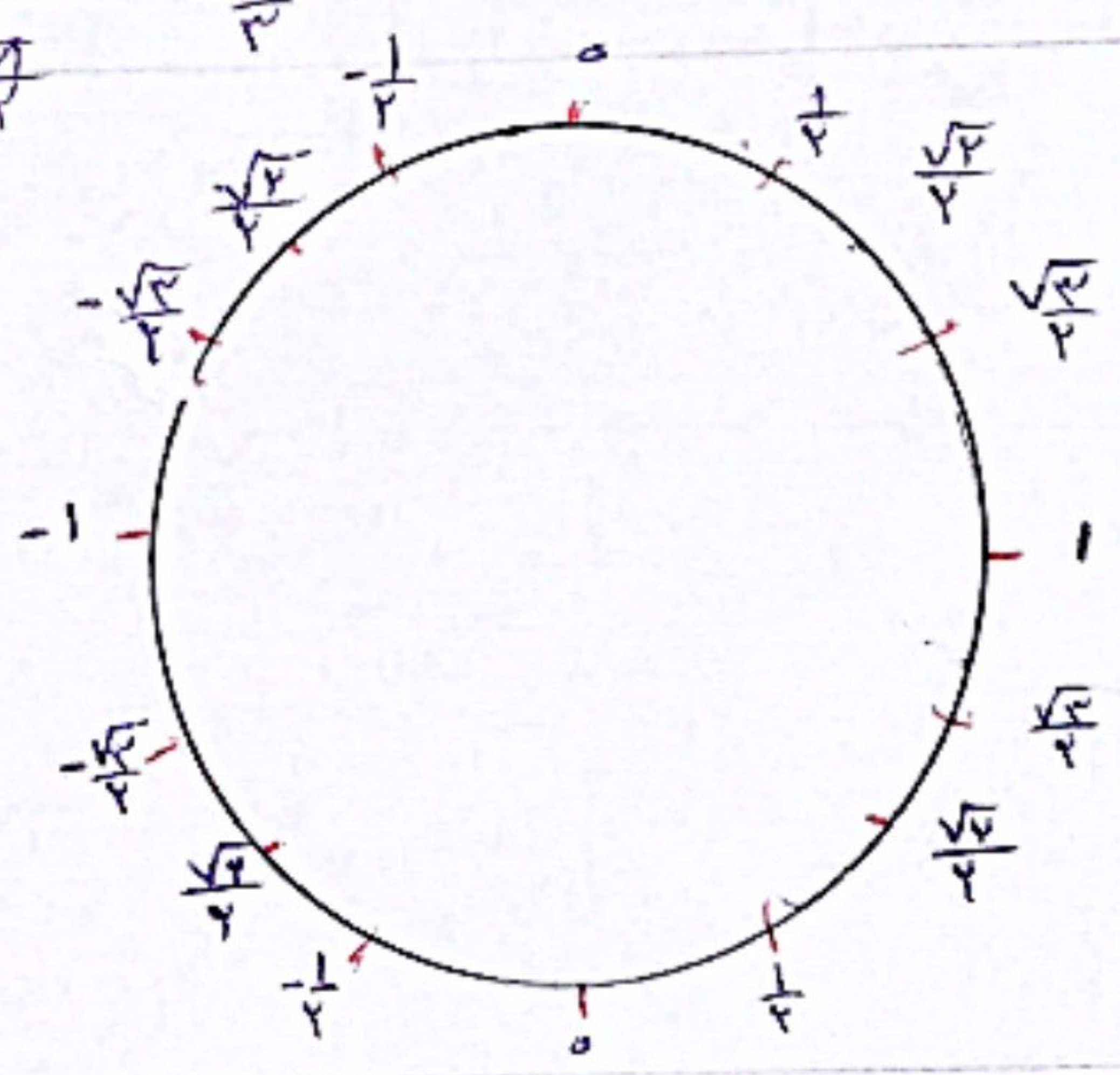
در تمام سوالات باید
تورکسید شود



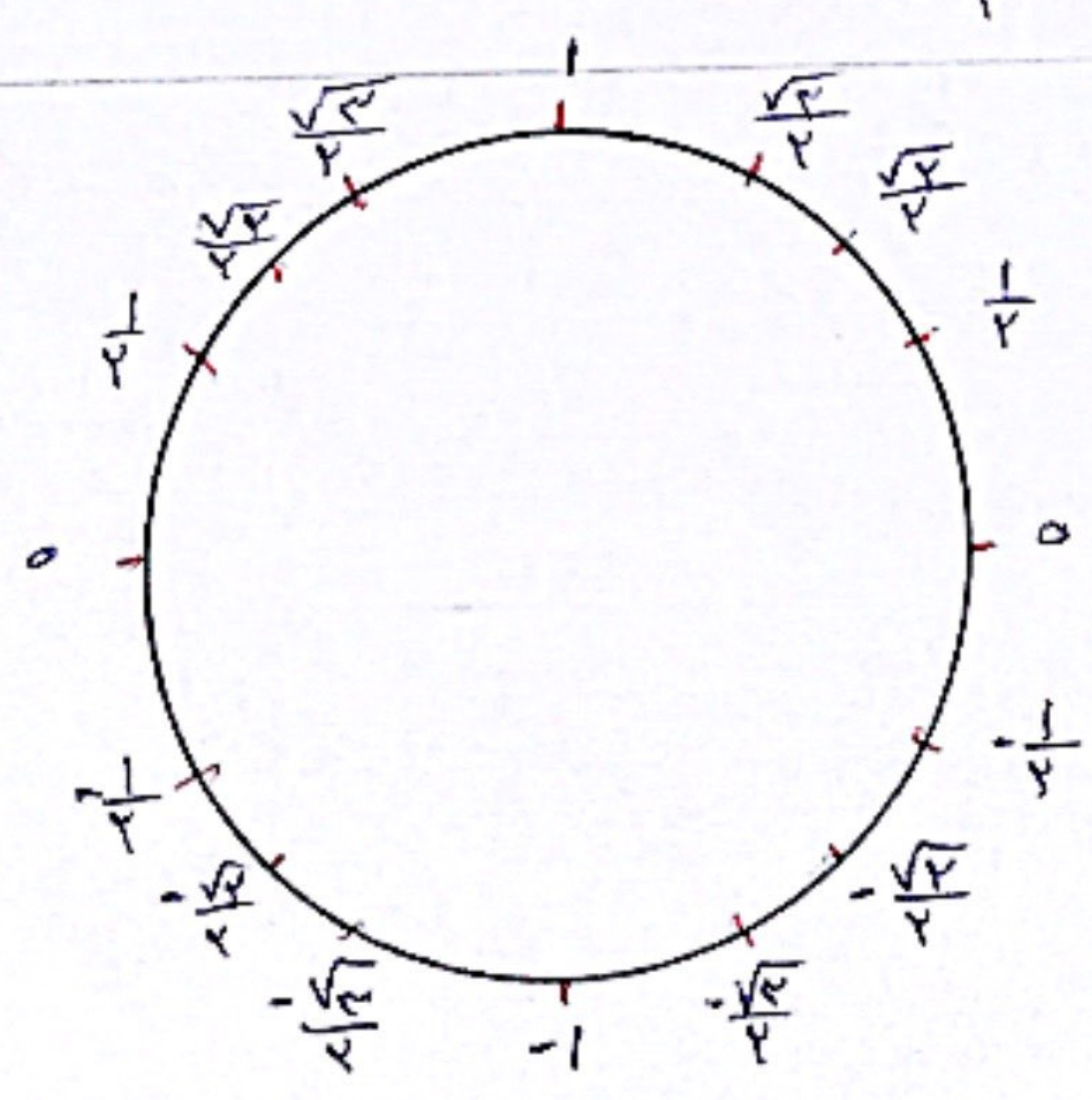
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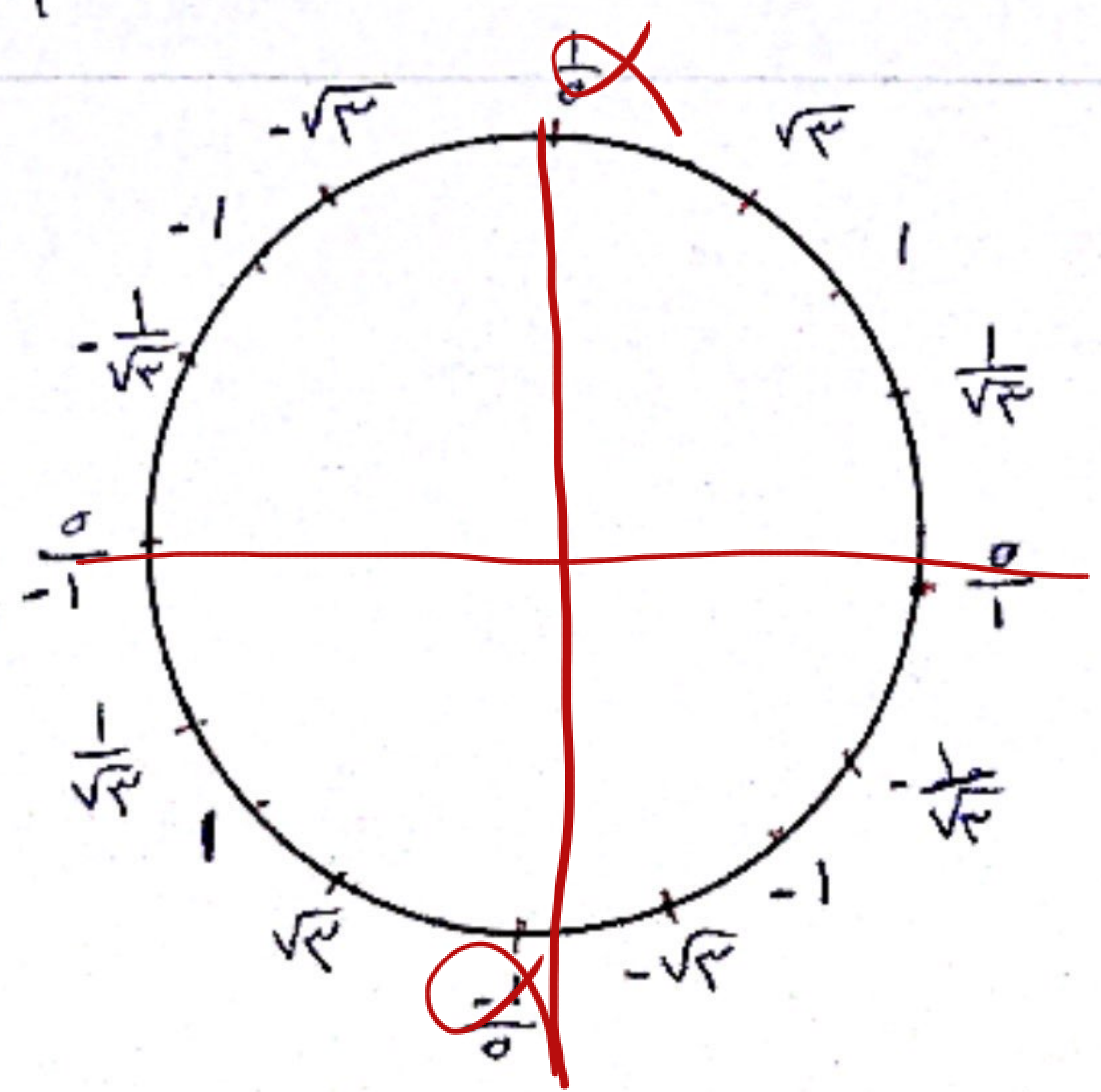


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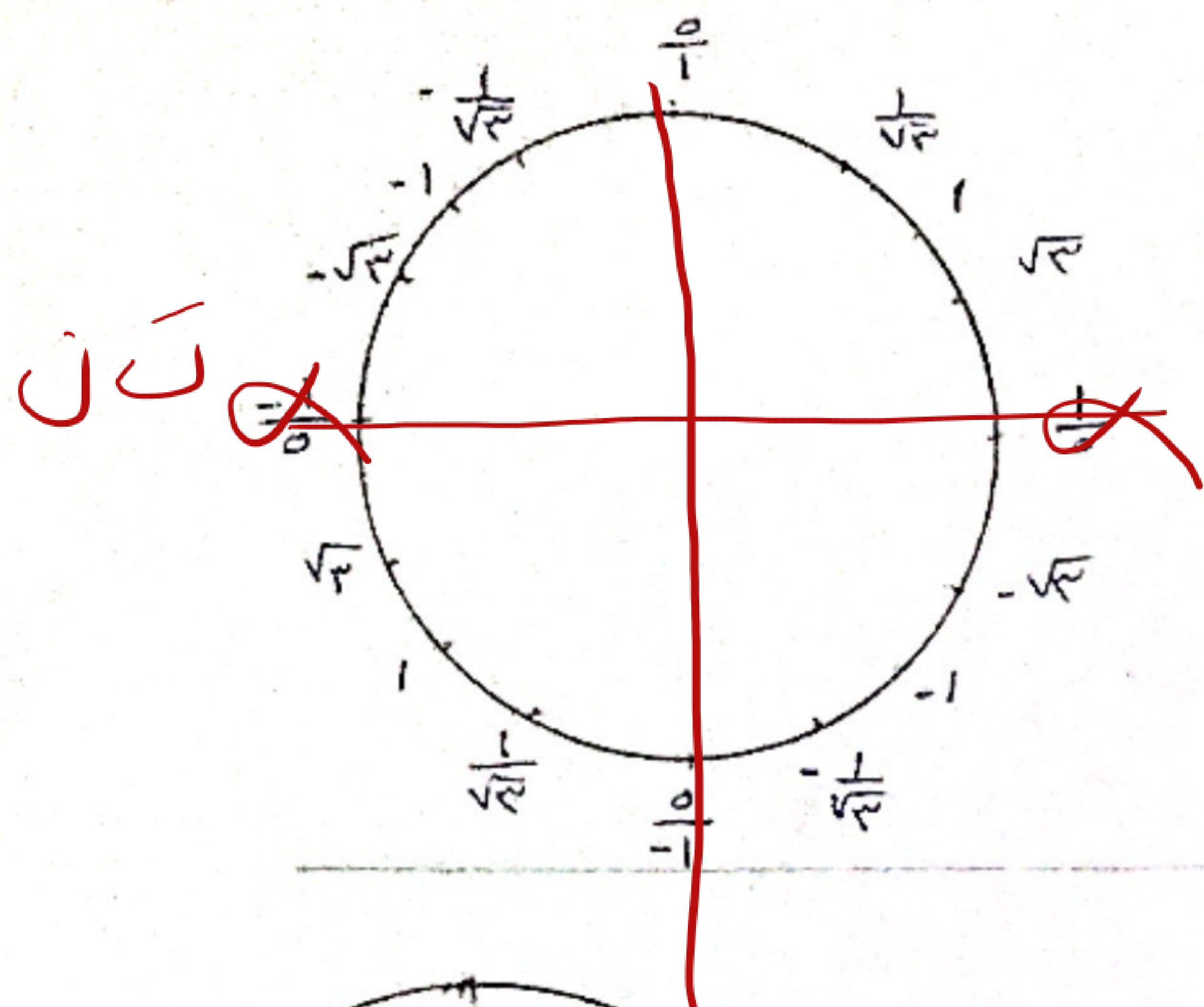


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$$\tan = \frac{\sin}{\cos}$$

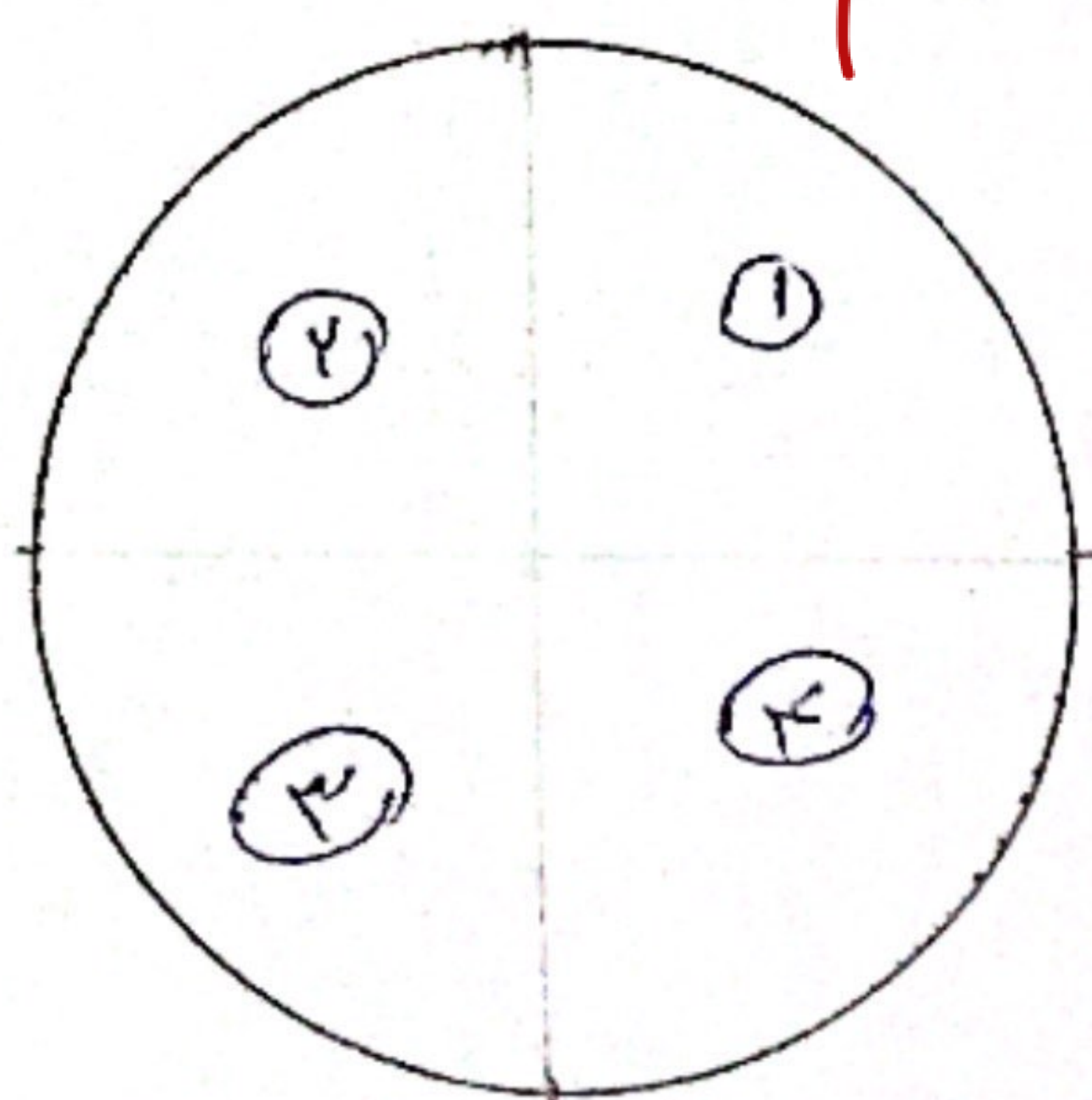


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$$\cot = \frac{\cos}{\sin}$$

1, 2, 3



①: $\cos > 0$	$\sin > 0$	$\tan > 0$	$\cot > 0$
②: $\cos < 0$	$\sin > 0$	$\tan < 0$	$\cot < 0$
③: $\cos < 0$	$\sin < 0$	$\tan > 0$	$\cot > 0$
④: $\cos > 0$	$\sin < 0$	$\tan < 0$	$\cot < 0$

2

$$\sin 120^\circ = \frac{\sqrt{3}}{2}$$

$$\cos 120^\circ = -\frac{1}{2}$$

$$\tan 120^\circ = -\frac{\sqrt{3}}{1}$$

$$\cot 120^\circ = -1$$

$$\sin 90^\circ = \frac{\sqrt{2}}{2}$$

$$\cos 110^\circ = -\frac{\sqrt{2}}{2}$$

$$\tan 120^\circ = -\frac{1}{\sqrt{3}}$$

$$\cot 110^\circ = -1$$

2 (الف)

(ب)

(ج)

(د)

$$\cos \frac{2\pi}{3} = -\frac{1}{2} \rightarrow \frac{1}{2} \left\{ \begin{array}{l} \sin 120^\circ = \frac{\pi}{3} = \frac{1}{2} \\ \sin 120^\circ = \frac{2\pi}{3} = \frac{1}{2} \end{array} \right.$$

(د)

$$\cos \frac{11\pi}{6} = \frac{\sqrt{3}}{2} \rightarrow -\frac{\sqrt{3}}{2} \left\{ \begin{array}{l} \sin 120^\circ = -\frac{\sqrt{3}}{2} = \frac{2\pi}{3} \\ \sin 120^\circ = -\frac{\sqrt{3}}{2} = \frac{4\pi}{3} \end{array} \right.$$

2

(ب)

$$\cot \frac{\sqrt{\pi}}{4} = \frac{\cos \frac{\sqrt{\pi}}{4}}{\sin \frac{\sqrt{\pi}}{4}} = \frac{\frac{\sqrt{2}}{2}}{-\frac{\sqrt{2}}{2}} = -1 \rightarrow \cos 120^\circ = \cos \pi = -1$$

(الف)

2

$$\cos 120^\circ = -\frac{\sqrt{3}}{2} \rightarrow \frac{\sqrt{3}}{2} \left\{ \begin{array}{l} \sin 90^\circ = \frac{\sqrt{3}}{2} = \sin \frac{\pi}{3} \\ \sin 120^\circ = \frac{\sqrt{3}}{2} = \sin \frac{2\pi}{3} \end{array} \right.$$

(ب)