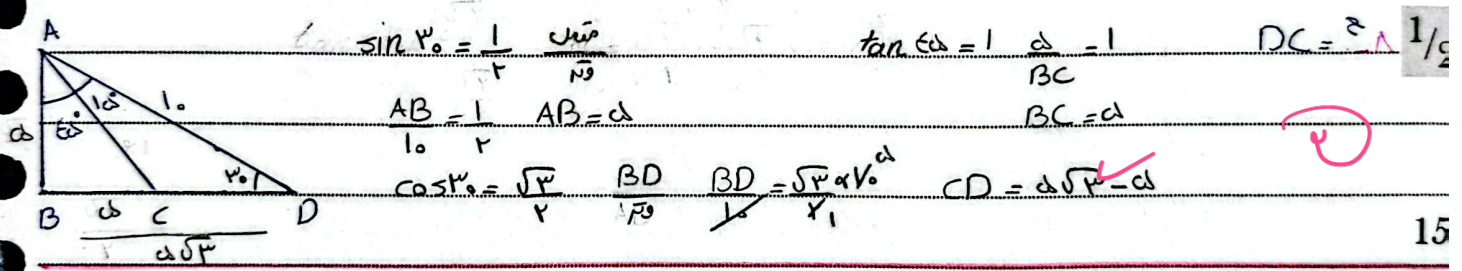
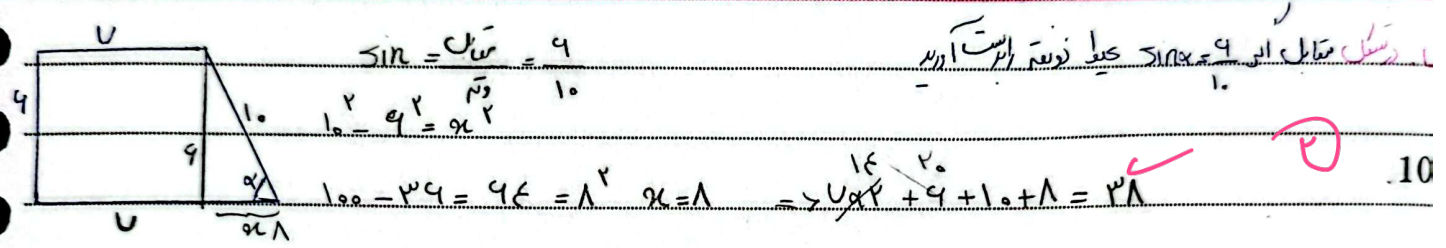


$$\frac{1}{\tan^2 \theta} \cdot (1 - \tan^2 \theta) = \tan \theta \quad \text{or} \quad \frac{1}{\frac{1}{\sqrt{3}}} \cdot (1 - \frac{1}{3}) \cdot \frac{1}{\sqrt{3}} = \frac{1}{\sqrt{3}} = \frac{1}{\sqrt{3}} \quad \theta = 45^\circ$$

$$\frac{1}{\tan^2 \theta} = R \quad \frac{1}{\sqrt{3}} = R \quad \text{or} \quad \frac{r \sin^2 \theta \cos \theta}{\cos^2 \theta} = \frac{r}{\sqrt{3}} \Rightarrow \tan \theta = \frac{1}{\sqrt{3}} \quad \theta = 30^\circ$$

$$\tan \theta = \frac{\sin \theta}{\cos \theta} = d \quad \text{or} \quad \frac{r \sin \theta - \cos \theta}{\sin \theta - \cos \theta} = \frac{1}{\sqrt{3}} \Rightarrow \frac{r(\sin \theta - \cos \theta) - \cos \theta}{\sin \theta - \cos \theta} = \frac{1}{\sqrt{3}}$$



این به این است که اگر θ را در $\sin$ و $\cos$ قرار دهیم، $\sin \theta$ و $\cos \theta$ را به دست می آوریم.

$$1 + \tan^2 \theta = \frac{1}{\cos^2 \theta} \quad 1 + \frac{1}{9} = \frac{1}{\cos^2 \theta} \Rightarrow \cos^2 \theta = \frac{9}{10} \Rightarrow \cos \theta = \frac{3}{\sqrt{10}}$$

$$\sin^2 \theta + \cos^2 \theta = 1 \Rightarrow \sin^2 \theta = 1 - \frac{9}{10} = \frac{1}{10} \Rightarrow \sin \theta = \frac{1}{\sqrt{10}}$$



فوب حل کاملی «ب»

۱. α را بدست آورید.

$$\begin{aligned} \text{الف } PV &= (x) \text{ root} \quad PV = \frac{R \text{ root}}{1A.} \quad \frac{PV}{\pi} = \frac{R \text{ root}}{\pi} \quad \frac{PV}{\pi} = \frac{R \text{ root}}{\pi} \quad \alpha = \frac{3\pi}{4} \\ \text{ب } 12\alpha &= (x) \text{ root} \quad \frac{12\alpha}{1A.} = \frac{R \text{ root}}{9\pi} \quad \frac{12\alpha}{1A.} = \frac{R \text{ root}}{9\pi} \quad \frac{12\alpha}{1A.} = \frac{R \text{ root}}{9\pi} \quad \alpha = \frac{2\pi}{3} \\ \text{ج } \frac{d\pi}{12} \text{ root} &= (x) \cdot \frac{d\pi}{12} \alpha \frac{1}{\pi} = \frac{D}{1A.} \Rightarrow \alpha = 15^\circ \\ \text{د } \frac{4\pi}{9} \text{ root} &= (x) \cdot \frac{4\pi}{9} \alpha \frac{1}{\pi} = \frac{D}{1A.} \Rightarrow \alpha = 10^\circ \end{aligned}$$

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۲. α را بدین روش بدست آورید. α را بدست آورید. α را بدست آورید.

$$D = 12\alpha \times 1A. \Rightarrow \frac{12\alpha}{2} = 12, d\alpha \quad 10\alpha + 22, d\alpha + 12, d\alpha = 1A. \\ \epsilon d\alpha = 1A.$$

$$D = \frac{\alpha \pi}{1 \times \pi} \Rightarrow D = 22, d\alpha \quad \alpha = 6^\circ \Rightarrow \alpha = 6^\circ$$

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۳. حاصل عبارت خانی را بدست آورید.

$$\frac{1}{2} \cos 40^\circ \cos 20^\circ - \sin 40^\circ \sin 20^\circ - \frac{\tan 60^\circ + 2 \cot 60^\circ}{1 \times 1} = 1$$

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$$\begin{aligned} \text{الف } \frac{\tan 30^\circ + \tan 60^\circ + \tan 40^\circ}{\cot 30^\circ \cot 40^\circ} &= \frac{-\cos 30^\circ}{\cos 30^\circ} - \frac{\cos 60^\circ}{\cos 60^\circ} - \frac{\cos 40^\circ}{\cos 40^\circ} \\ \frac{\frac{1}{\sqrt{3}} + 1 + \sqrt{3}}{\sqrt{3} - \frac{1}{\sqrt{3}}} &= \frac{13\sqrt{3}}{9} - \frac{\cos 30^\circ}{\sin 30^\circ} - \frac{\cos 40^\circ}{\sin 40^\circ} \\ \frac{1}{\sqrt{3}} + 1 + \sqrt{3} &= \frac{13\sqrt{3}}{9} - \frac{\cos 30^\circ}{\sin 30^\circ} - \frac{\cos 40^\circ}{\sin 40^\circ} \end{aligned}$$

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۴. $\sin 30^\circ \sin 40^\circ - \sin 30^\circ \cos 90^\circ + \cos 30^\circ \sin 40^\circ = \sin \theta$ را بدست آورید.

$$\begin{aligned} -\sin 30^\circ + \sin 40^\circ &= \sin \theta \quad -\frac{1}{2} + \frac{\sqrt{3}}{2} = \frac{1}{2} = \sin \theta \quad \sin \theta = \frac{1}{2} \Rightarrow \theta = 30^\circ \\ \tan \epsilon d &= \frac{\sqrt{3}}{2} \times \frac{2}{\sqrt{3}} = 1 \end{aligned}$$

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