

سوال چهارم

$$-1 + \frac{-\sqrt{2}}{2} \times \frac{-\sqrt{2}}{2} = -1 + \frac{1}{2} = \frac{-1}{2}$$

$$\Rightarrow \frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{2} + \frac{-1}{2} = 0$$

جایگزین

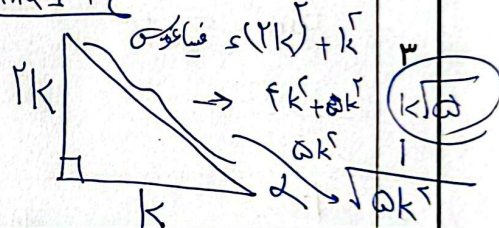
$$\cot x = \frac{\cos x}{\sin x} = \frac{1}{2} \quad \text{و} \quad \sin x = \cos x$$

$$\frac{3(\frac{1}{2}\sin x) - \sin x}{\frac{1}{2}\sin x + \sin x} = \frac{12\sin x - \sin x}{2\sin x} = \frac{11\sin x}{2\sin x} = \frac{11}{2}$$

توجه: $\sin$ و $\cos$ -

$$\cos x \neq 0 \rightarrow \sin x \neq \cos x \rightarrow \frac{1}{\tan x} = \frac{1}{2} \rightarrow \tan x = 2$$

$$\cos x = \frac{1}{\sqrt{5}} \rightarrow \frac{1}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{5}}{5}$$



$$\begin{cases} \sin^2 x + \cos^2 x = \frac{4}{3} \\ \sin^2 x + \cos^2 x = 1 \quad (I) \end{cases} \rightarrow \sin^2 x = 1 - \cos^2 x$$

$$2(1 - \cos^2 x) + \cos^2 x = \frac{4}{3} \rightarrow 2 - 2\cos^2 x + \cos^2 x = \frac{4}{3} \rightarrow 2 - \cos^2 x = \frac{4}{3}$$

$$\cos^2 x = \frac{2}{3} - \frac{4}{3} \rightarrow \cos^2 x = -\frac{2}{3} \quad I \rightarrow \sin^2 x + \frac{2}{3} = 1$$

$$\sin^2 x = \frac{1}{3} \quad \tan^2 x = \frac{\sin^2 x}{\cos^2 x} = \frac{\frac{1}{3}}{\frac{2}{3}} = \frac{1}{2} \rightarrow \tan x = \frac{1}{\sqrt{2}}$$

$$S_{ABC} = \frac{1}{2} \times \sqrt{3} \times 4 \times \sin \alpha, f, \omega \rightarrow 2\sqrt{3} \sin \alpha, f, \omega \rightarrow \sin \alpha = \frac{f}{2\sqrt{3}}$$

$$= \frac{3}{2\sqrt{3}} = \frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{2} \rightarrow \text{Arc sin } \frac{\sqrt{3}}{2} \rightarrow 120^\circ \text{ و } 60^\circ$$

$$\Rightarrow \frac{\max}{\min} = \frac{120}{60} = 2 \text{ باری}$$

طول ۲F
طول ۳F
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طول ۳F

$$2F \times 3F \times \sin 120^\circ = 4F^2 = 10A$$

$$10A = 10 \times \sqrt{9 \times 2} = 30\sqrt{2}$$

$$2F = 5\sqrt{2}$$

$$3F = 7.5\sqrt{2}$$

$$2F = 2\sqrt{18} = 2\sqrt{18}$$

$$3F = 3\sqrt{18}$$

$$2(a+b) = 2(2\sqrt{18} + 3\sqrt{18}) = 10\sqrt{18}$$

(طول منفرجه)

$$\frac{1}{2} \times \omega \times \sqrt{3} \times \sin A = \frac{1}{2} \times \omega \times f \times \sin A, 1, \omega$$

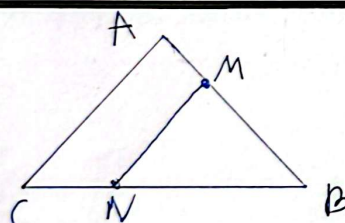
$$\Rightarrow f, \omega (\sin A) (\omega - f) = 1, \omega$$

$$\frac{\omega}{f} \sin A = \frac{1}{f} \Rightarrow \sin A = \frac{1}{\omega}$$

$$\Rightarrow \tan 30^\circ = \frac{f}{\omega}$$

$$\frac{\sin 30^\circ}{\cos 30^\circ} = \frac{f}{\omega}$$

$$A = 30^\circ \checkmark$$



BN = \frac{f}{2} NC

BC = \frac{\omega}{2} NC

AM + MB = \frac{\omega}{2} AB = 3 \Rightarrow \omega AB = 9 MB

\frac{BM}{AM} = \frac{\omega}{2}

\frac{MB}{AB} = \frac{\omega}{9}

$$\frac{1}{\sqrt{\cos \alpha}} - \tan \alpha = \frac{1 + \sin \alpha}{1 + \cos \alpha} \Rightarrow \frac{1}{\sqrt{\cos \alpha}} = \frac{1 + \sin \alpha}{1 + \cos \alpha} = \frac{\sin \alpha}{\cos \alpha} = \tan \alpha$$

$$\Rightarrow -\sin \alpha \cos \alpha = \sin \alpha |\cos \alpha| \Rightarrow -\cos \alpha = |\cos \alpha|$$

نصفه ی کسین در کسین معنی است (خف اول و چهارم)

$$\frac{|\sin \alpha|}{\cos \alpha} = \frac{-1}{\cot \alpha} \Rightarrow \frac{|\sin \alpha|}{\cos \alpha} = \frac{-\sin \alpha}{\cos \alpha} \Rightarrow |\sin \alpha| = -\sin \alpha$$

نصفه ی کسین که معنی است (خف اول و دوم)

شماره ای بایمان باقی ماند

← ناحیه ←

$$\sin, \cos < 0$$