دانا اسدیار

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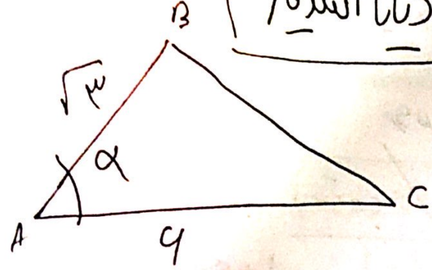


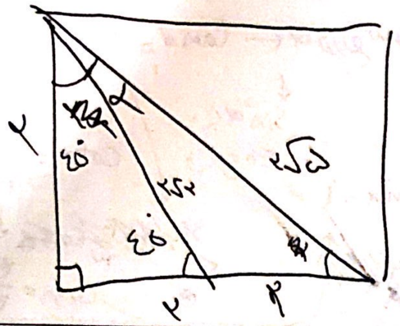
$S_{ABC} = \cancel{\tfrac{1}{2}} \times \sqrt{3} \times \cancel{6} \times \sin A = \cancel{4/5}\ \tfrac{9}{2}$

$\boxed{\sin A = \frac{3}{2} \times \frac{\sqrt{3}}{3}}$

$\hat{A}_{max} = 120^\circ$

$\alpha_{min} = 60^\circ$

دو برابر



$\cot\alpha = \frac{\cos\alpha}{\sin\alpha} = \frac{\frac{3\sqrt{10}}{10}}{\frac{\sqrt{10}}{10}} = 3$ جواب آخر

$\cos(\alpha + \frac{\pi}{4}) = \cos\frac{\sqrt{2}}{2} - \sin\frac{\sqrt{2}}{2} \to \cos\alpha - \sin\alpha$

$\sin(\alpha + \frac{\pi}{4}) \to \frac{\sqrt{2}}{2} \quad \sin\alpha + \cos\alpha = \frac{2\sqrt{10}}{5}$

$= \frac{\sqrt{10}}{5}$

$4 + 16 \to 20$

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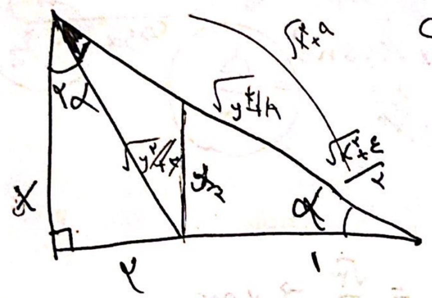

$\cos 2\alpha = \frac{x^2}{y^2} - \frac{4}{y^2} \to \frac{x^2-4}{y^2}$

$\sin 2\alpha = 2 \cdot \frac{x}{y} \cdot \frac{4}{y} \to \frac{8x}{y^2}$

$\frac{x^4 + 16 - 8x^2 + 64x^2}{y^4} = 1 \to (x^2+4)^2 = y^4 \to x^2 + 4 = y^2$

$\frac{1}{2} \times 2 \times 9 \times 1 =$

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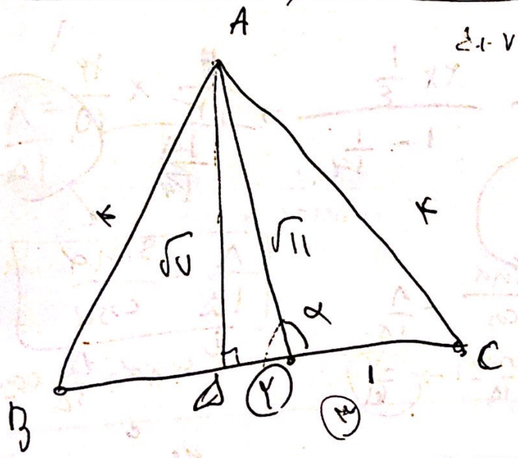

$\tan\alpha = -\tan(180 - \alpha) \to -\frac{\sin\alpha}{\cos\alpha} \to \frac{\sqrt{7}}{2}$ $\tan\alpha$

$16 - 9 = 7$

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$2\sin^2 x + \cos^2 x = \frac{4}{3}$

$\to 1 + \sin^2 x = \frac{4}{3} \to \boxed{\sin^2 x = \frac{1}{3}}$

$\cos^2 x = \frac{2}{3}$

$\tan^2 x = ?\quad \frac{\sin^2 x}{\cos^2 x} = \frac{\frac{1}{3}}{\frac{2}{3}} \to \frac{1}{2}$

(۶)

$$\frac{\sin^4\alpha+4\cos^2\alpha}{1+\cos^2\alpha}-\frac{\cos^4\alpha+4\sin^2\alpha}{1+\sin^2\alpha} \rightarrow 1+\sin^4x+2\sin^2x \quad (1+\sin^2x)^2$$

$$\frac{\sin^4\alpha+4-\sin^2x}{2-\sin^2\alpha} \rightarrow 2-\sin^2\alpha-\left(\frac{\cos^4\alpha+4-4\cos^2\alpha}{2-\cos^2\alpha}\right)=1$$

$1+\sin^4x+$

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(۷) $\tan\alpha=\frac{4}{3}$ ← α در ربع سوم

$$\sin\left(\frac{9}{2}\pi+\alpha\right)\cdot\cos\left(\frac{7\pi}{2}-\alpha\right)-\tan\left(\alpha-\frac{3}{2}\pi\right)$$

$+\tan(\frac{3}{2}\pi-\alpha)$

$\cos\alpha \cdot \sin\alpha+\cot\alpha \rightarrow \frac{\cos\alpha}{\sin\alpha}$

$\sin\alpha<0$, $\cos<0$, $\cot\alpha=\frac{3}{4}$

$+\frac{12}{25}+\frac{3}{4}=\frac{123}{100}$

$\sin^2\alpha\frac{9}{16}+\sin^2\alpha=1$

$\sin^2\frac{25}{16}=1$

$\cos\alpha=\frac{3}{4}\sin\alpha$

$\sin\alpha^2=\frac{16}{25}\rightarrow \boxed{\sin\alpha=-\frac{4}{5}}$

$\cos\alpha=-\frac{3}{5}$

$$(3\cos4x+\sqrt{2}\sin x-\sqrt{2}\cos x=\frac{3}{2}+\sqrt{2}(\sin x-\cos x)=\frac{5}{2}$$

$2\cos\frac{\pi}{3} \rightarrow \frac{1}{2}$

$$x=\frac{\pi}{12}\rightarrow \cos 2\alpha \rightarrow \cos\left(2\times\frac{\pi}{12}\right)=\cos\frac{4\pi}{12}\rightarrow \sin\frac{2\pi}{12}=\frac{\sqrt{3}}{2}$$

$\cos^2\alpha+\sin^2\alpha\frac{\pi}{12}=1$ $\quad 2\cos$

$$\tan\left(\frac{\alpha}{2}\right)=\frac{1}{4}\rightarrow \tan(\alpha)=\frac{2\tan\left(\frac{\alpha}{2}\right)}{1-\tan^2\left(\frac{\alpha}{2}\right)}\rightarrow\frac{2\times\frac{1}{4}}{1-\frac{1}{16}}\rightarrow\frac{\frac{1}{2}}{\frac{15}{16}}=\frac{8}{15}$$

$$\frac{\tan\alpha-\sin\alpha}{\sin\alpha-\cos\alpha}=\frac{\frac{8}{15}-\frac{8}{17}}{\frac{8}{17}-\frac{15}{17}}=\frac{8\left(\frac{2}{15\times17}\right)}{\frac{-7}{17}}=\frac{16}{75}$$

$$\boxed{\frac{8}{15}=\frac{\sin\alpha}{\cos\alpha}}$$

$\sin\alpha=\frac{8}{15}\cos\alpha$

$\frac{64}{225}+1\rightarrow\frac{289}{225}$ $\quad \cos\alpha=\frac{15}{17}$

$\frac{8}{15}-1\rightarrow\frac{-7}{15}$

$$2\sin\alpha<2\sin\alpha\cos\alpha \rightarrow$$

$0<\sin\alpha(\cos\alpha-1)$

$\sin\alpha<0$ → ربع چهارم

$$0<\frac{\cos\alpha}{\sin\alpha^2} \quad \cos\alpha>0$$

$2\sin\alpha(2\cos \quad \sin(\frac{\pi}{4})\ \frac{1}{2}=2\sin\alpha\cos\alpha$