عرفان حقیقی یازدهم پیش A

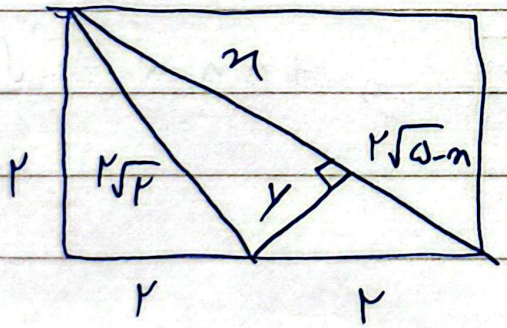
$\frac{1}{2} \times \sqrt{3} \times 6 \times \sin\alpha = \frac{15}{10} \Rightarrow 3\sqrt{3} \times \sin\alpha = \frac{15}{10}$ (1

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

60° : بیشترین مقدار

120° : کمترین مقدار

$\frac{120}{60} = 2$ برابر



$y^2 = x^2 - 8$

$y^2 = x^2 - 4\sqrt{5}x + 16$

$x^2 - 8 = x^2 - 4\sqrt{5}x + 16 \Rightarrow 4\sqrt{5}x = 24 \Rightarrow x = \frac{6\sqrt{5}}{5}$

$y = \frac{2\sqrt{5}}{5}$ $\cot\alpha = \frac{x}{y} \Rightarrow 3$

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date: subject:

$$\cot\alpha = \frac{\cos\alpha}{\sin\alpha} = \frac{۳}{۴}$$ (۳)

$$\tan^۲\alpha = \frac{\sin ۲\alpha}{\cos ۲\alpha} = \frac{۲\sin\alpha\cos\alpha}{\cos^۲\alpha - \sin^۲\alpha} = \frac{۲}{۴}$$

$$\frac{\cot\alpha}{\tan\alpha} = \frac{۳}{۲} \Rightarrow \frac{\frac{\cos\alpha}{\sin\alpha}}{\frac{۲\sin\alpha\cos\alpha}{\cos^۲\alpha - \sin^۲\alpha}} = \frac{۱ - ۲\sin^۲\alpha}{۲\sin^۲\alpha} = \frac{۳}{۲}$$

$$۲ - ۲\sin^۲\alpha = ۶\sin^۲\alpha$$

$$\sin^۲\alpha = ۰/۲ \Rightarrow \cos^۲\alpha = ۰/۸ \quad \cot\alpha = \sqrt{\frac{۰/۸}{۰/۲}} = ۲$$

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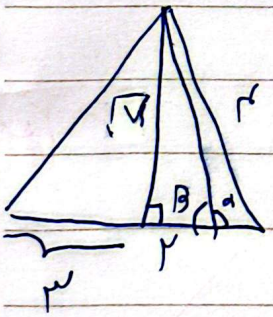
(۴)



$$|\tan\alpha| = |\tan\beta|$$

$$\tan\beta = \frac{\sqrt{۷}}{۲} \Rightarrow \tan\alpha = \frac{\sqrt{۷}}{۲}$$

date: subject:

$$2\sin^2 m + 1 - \sin^2 m = \frac{5}{4} \Rightarrow \sin^2 m = \frac{1}{4} \quad (3$$

$$\Rightarrow 1 - \sin^2 m = \cos^2 m \Rightarrow \cos^2 m = \frac{3}{4}$$

$$\tan^2 = \frac{1}{3}$$

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

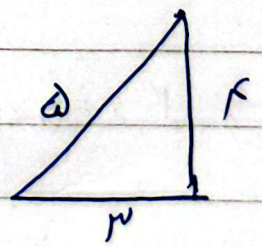
$$\Rightarrow \frac{(\sin^2\alpha - 1)^2}{1+\cos^2\alpha} - \frac{(\cos^2 - 1)^2}{1+\sin^2\alpha} \Rightarrow \frac{(\cos\alpha^2+1)^2}{1+\cos^2} - \frac{(\sin^2\alpha+1)^2}{1+\sin^2\alpha}$$

$$\Rightarrow \cos^2 + 1 - \sin^2 - 1 = \cos^2\alpha - \sin^2\alpha$$

(5

$$A = \sin\left(2\pi + \frac{\pi}{3} + \alpha\right)\cos\left(2\pi - \frac{\pi}{3} - \alpha\right) + \tan\left(\frac{3\pi}{3} - \alpha\right)$$

$$\Rightarrow A = (\cos\alpha)(-\sin\alpha) + \cot\alpha$$



$$\sin\alpha = -\frac{4}{5} \quad \cos\alpha = -\frac{3}{5} \Leftarrow$$

$$A = -\frac{12}{20} + \frac{3}{4} = \frac{-24+30}{40} = \frac{6}{40}$$

date: subject:

$\sqrt{2}\sin x - \sqrt{2}\cos x = \sqrt{2}(\sin x - \cos x)$ ۸

$\Rightarrow \sqrt{2}\left(\sqrt{2}\sin\left(x - \frac{\pi}{4}\right)\right) \Rightarrow 2\sin\left(x - \frac{\pi}{4}\right)$

$\Rightarrow 2\cos\frac{\pi}{3} + 2\sin\left(-\frac{\pi}{4}\right) = 2\times\frac{1}{2} + 2\times\frac{-1}{2} = \frac{1}{2}$

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$\sin\alpha = \frac{\frac{2}{5}}{\frac{17}{15}}$, $\cos\alpha = \frac{\frac{15}{17}}{\frac{17}{15}}$, $\tan\alpha = \frac{\frac{2}{3}}{\frac{15}{15}}$

$\frac{\tan\alpha - \sin\alpha}{\sin\alpha - \cos\alpha} = \frac{\frac{8}{15} - \frac{8}{17}}{\frac{8}{17} - \frac{15}{17}} \Rightarrow -\frac{14}{10}$

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$2\sin\alpha < 2\sin\alpha\cos\alpha \Rightarrow 2\sin\alpha - 2\sin\alpha\cos\alpha < 0$

$\Rightarrow 2\sin\alpha(\underbrace{1-\cos\alpha}_{+}) < 0 \Rightarrow \sin\alpha < 0$

$\frac{\cos\alpha}{\sin^2\alpha} > 0 \Rightarrow \cos > 0$ کمان α در ناحیه چهارم

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