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یا راسختری دوازدهم بر سر در نشسته

AC, $\cos \alpha$, $\sin \alpha$

$$\rightarrow AC = \frac{R}{|b|} = \frac{12}{2}$$

$$\rightarrow S = \frac{R}{2} \times 1 \times \frac{1}{2} = \frac{12}{4}$$

$$\frac{12}{4} = 3$$

$$x^2 - (\sin \alpha)x - \frac{1}{4} \cos^2 \alpha = 0$$

$$1 + \tan^2 \alpha = \frac{1}{\cos^2 \alpha} = \frac{9}{1} \rightarrow \frac{\sin^2 \alpha + \cos^2 \alpha}{\cos^2 \alpha} = \frac{9}{1} \rightarrow \frac{\sin^2 \alpha}{\cos^2 \alpha} = 8 \rightarrow \tan^2 \alpha = 8 \rightarrow \tan \alpha = \pm \sqrt{8} = \pm 2\sqrt{2}$$

$$\sin \alpha = -\frac{1}{3}$$

$$\cos^2 \alpha = \frac{2\sqrt{2}}{3}$$

$$\log^{-\tan \alpha} = 3 \rightarrow \frac{-\sin \alpha}{\cos \alpha} = 3$$

$$\sin > 0 \text{ و } \cos < 0$$

$$\rightarrow 1 \cdot \cos^2 \alpha = 1 \rightarrow \cos = -\frac{\sqrt{10}}{1}$$

$$\sin = \frac{3\sqrt{10}}{1}$$

$$\rightarrow \sin - \cos = \frac{3\sqrt{10}}{1} - \frac{-\sqrt{10}}{1} = \frac{4\sqrt{10}}{1}$$

$$\sin^2 \alpha = (1 - \cos^2 \alpha)^2 \rightarrow \cos^4 \alpha - 2\cos^2 \alpha + 1 + \cos^2 \alpha = \frac{4}{5} \rightarrow \cos^4 \alpha - \cos^2 \alpha + \frac{1}{5} = 0$$

$$\cos^2 \alpha = t \rightarrow t^2 - t + \frac{1}{5} = 0 \rightarrow t = \frac{1 \pm \sqrt{1 - \frac{4}{5}}}{2} = \frac{1 \pm \sqrt{\frac{1}{5}}}{2}$$

$$\cos^2 \alpha = \frac{1 - \sqrt{\frac{1}{5}}}{2}$$

$$\sin^2 \alpha = \frac{1 + \sqrt{\frac{1}{5}}}{2}$$

$$\rightarrow \cos^4 \alpha + \sin^4 \alpha = \frac{1 - 2\sqrt{\frac{1}{5}} + \frac{1}{5}}{4} + \frac{1 + 2\sqrt{\frac{1}{5}} + \frac{1}{5}}{4} = \frac{14}{20} = \frac{7}{10}$$

تغییرات مثبت

$$\sin(3 + \cos) < 0 \rightarrow \sin \alpha < 0$$

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

$$\cos \alpha < 0$$

$$\frac{-\cos^2 \alpha}{\cos \alpha} > 0 \rightarrow \cos \alpha < 0$$

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

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

دقت کن

سوم
آبای کسان در برج ~~سور~~

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$$\frac{r \cos \theta + r \sin \theta}{\frac{1}{r} \sin \theta} = \dots \rightarrow \boxed{\sin \theta = -\frac{r}{r} \cos \theta} \rightarrow \frac{r}{2} \cos^2 \theta \cos^2 \theta = 1 \rightarrow \frac{1}{2} \cos^2 \theta = 1$$

$\sin \theta < 0$ ← فترت الحاد

$$\cos \theta = \frac{r}{\sqrt{1r}}$$

$$\sin \theta = \frac{r}{\sqrt{1r}}$$

$$\boxed{\frac{-\sqrt{1r}}{5}}$$

$$\tan \theta + \cot \theta = \frac{r}{\sin \theta} = \frac{r}{r \sin \theta} = \frac{1}{\sin \theta} \rightarrow \frac{r}{\frac{r}{\sqrt{1r}}} = \frac{r}{\sqrt{1r}} = \frac{1}{\sqrt{1r}}$$

$$1 + \sin \theta = \frac{1}{\cos \theta} \rightarrow \cos^2 \theta = \frac{1 + \cos \theta}{r}$$

$$\frac{\sqrt{r \cos^2 \theta}}{\sin(\theta + \theta) + \sin(\theta - \theta)} = \frac{\sqrt{r} \cos \theta}{r \sin \theta \cos \theta} = \frac{\sqrt{r}}{r \sin \theta} = \frac{\sqrt{r}}{r \sin \theta} \cdot \frac{\sqrt{r}}{\sqrt{r}} = \frac{\sqrt{r}}{r \sin \theta \sqrt{r}}$$

$$1 - r \sin^2 \theta = \cos^2 \theta$$

$$r \cos^2 \theta - 1 = \cos^2 \theta$$

$$\tan \theta = \frac{r \tan \theta}{1 - \tan^2 \theta} \rightarrow 1 - \tan^2 \theta = \frac{r \tan \theta}{\tan \theta}$$

$$\boxed{1 + \tan^2 \theta = \frac{1}{\cos^2 \theta}}$$

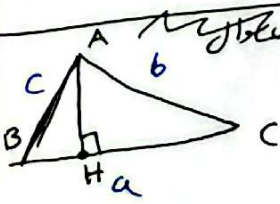
$$\cos^2 \theta_1 \times \cos^2 \theta_2 \times \frac{\frac{r \sin \theta_1}{\cos^2 \theta_1} \times \frac{r \sin \theta_2}{\cos^2 \theta_2}}{\frac{\sin \theta_1}{\cos \theta_1} \times \frac{\sin \theta_2}{\cos \theta_2}} = \cos^2 \theta_1 \times \cos^2 \theta_2 \times \cos \theta$$

$$\sin \theta + r \cos \theta = r \rightarrow \div \cos \rightarrow \tan \theta + r = \frac{r}{\cos \theta} \rightarrow \tan^2 \theta + \tan \theta + r = \frac{r}{\cos^2 \theta}$$

$$r + r \tan^2 \theta = \tan^2 \theta + \tan \theta + r \rightarrow r \tan^2 \theta - \tan^2 \theta - \tan \theta = 0$$

$$\tan \theta = 1 + \frac{r}{\sqrt{5}}$$

$$\frac{5 \pm \sqrt{45}}{5} = 4 \tan \theta$$



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \rightarrow \frac{bc}{\sin B \sin C} = \frac{a^2}{\sin^2 A}$$

$$a^2 = bc \cdot r \sin^2 A$$

$$a^2 = b^2 + c^2 - rbc(1 - \sin^2 A)$$

$$(b - c)^2 = \dots \rightarrow \boxed{b = c}$$

$$v \times r = 144$$

$$110 - 144 = 35$$

$$\boxed{\hat{A} = 35}$$

فترت متادى الساقين

$$\boxed{B = C = 72.5}$$

$$1 - 2\sin^2 \delta = c.s.i.$$

$$2c.s.i. - 1 = c.s.r.$$

فرمولهای

$$\frac{1 - \tan^2 r}{1 + \tan^2 r} =$$

$$c(r \times r) = c\epsilon$$

$$\frac{c.s^2 r - \sin^2 r}{c.s^2 r + \sin^2 r} = c.s\epsilon$$

سوال ۸

$$(8110) \quad c.s.i. \times c.s.r. \times c.s\epsilon =$$

$$\frac{1}{r} \sin r \times c.s.r. \times c.s\epsilon$$

$$\frac{1}{r} \times \frac{1}{r} \sin \epsilon \times c.s\epsilon =$$

$$\frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} \sin 10 = \frac{\frac{1}{r} \sin 10}{\sin 10} = \frac{1}{r} \cot 10$$

c.b.1.

$$\frac{\frac{1}{r} \sin 10}{\sin 10}$$

$$= \frac{1}{r} \cot 10$$

$$\sin \alpha + 2c.s\alpha = 2 \rightarrow \sin \alpha = 2 - 2c.s\alpha \xrightarrow{\text{توان ۲}} \sin^2 \alpha = (2 - 2c.s\alpha)^2$$

سوال ۹

$$1 - c.s^2 \alpha = 4c.s^2 \alpha + 4 - 4c.s\alpha \rightarrow 1.c.s^2 \alpha - 4c.s\alpha + 3 = 0 \xrightarrow{\text{فرمول درجی}}$$

$$1 \cdot \left(\frac{1 + c.s\alpha}{2} \right) - 4c.s\alpha + 3 = 0 \rightarrow 1 + 1.c.s\alpha - 4c.s\alpha + 3 = 0$$

(خواسته سوال)

$$1.c.s\alpha - 4c.s\alpha = -4$$