

ایراد آماری
دوازدهم رفقان
تالیف ۱۲

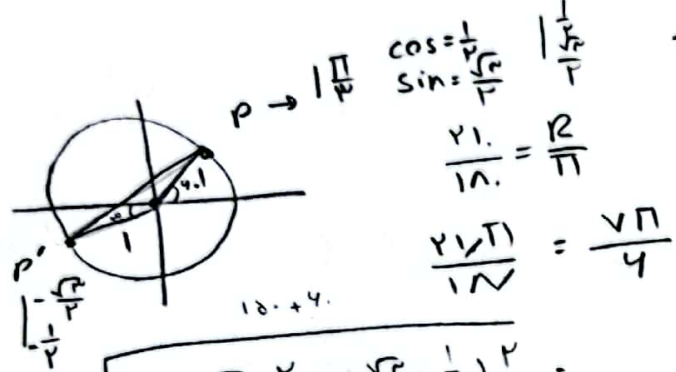
$$\frac{a \sin \frac{\pi}{4} + b \cos \frac{\pi}{4}}{a \sin \frac{11\pi}{4} + b \cos \frac{\pi}{4}} = \frac{-\frac{\sqrt{3}}{2}a - b\frac{\sqrt{3}}{2}}{-\frac{a}{2} + \frac{1}{2}b}$$

$$\tan = -\frac{\frac{\sqrt{3}a+b\sqrt{3}}{a-b}}{\frac{-a+b}{2}} = -\frac{\sqrt{3}a+b\sqrt{3}}{-a+b} = -\frac{\sqrt{3}}{2}$$

۱

$$\begin{aligned} -\sqrt{3}a - \sqrt{3}b &= \sqrt{3}a - \sqrt{3}b \\ -4\sqrt{3}a &= 2b\sqrt{3} \end{aligned}$$

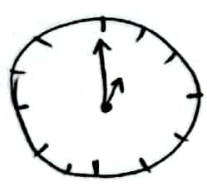
$$\frac{b}{a} = \frac{-4\sqrt{3}}{2\sqrt{3}} = -2$$



۲

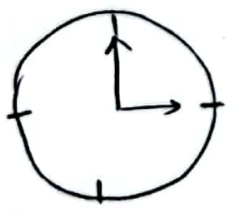
$$\sqrt{\left(\frac{1}{2} + \frac{\sqrt{3}}{2}\right)^2 + \left(\frac{\sqrt{3}}{2} + \frac{1}{2}\right)^2} = \sqrt{2 \left(\frac{1+\sqrt{3}}{2}\right)^2} = \sqrt{2} \times \frac{1+\sqrt{3}}{2} = \frac{\sqrt{2}+\sqrt{6}}{2}$$

۳



$$\frac{D}{12} = \frac{9\pi}{\pi} \quad \& \quad \frac{1}{9} = \frac{D}{12} = 2$$

اعتبار زمان و دقیقه
جوابی در ۲:۴



$$\begin{aligned} \frac{11}{2}M - 30h &= 2 \\ \frac{11}{2}M - 30 \times 3 &= 2 \\ \frac{11}{2}M - 90 \times 3 &= -2 \end{aligned}$$

$$\frac{11}{2}M = 2 + 90 \times 3 = 272$$

$$M = \frac{272 \times 2}{11} = \frac{544}{11} = 49 \frac{5}{11}$$

۴

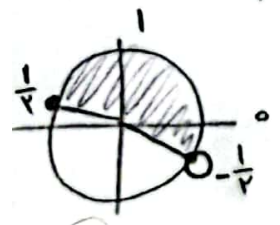
$$-\frac{\pi}{4} < x \leq \frac{\pi}{4}$$

$$\sin x = \frac{m-3}{5}$$

$$-\frac{5}{5} < \frac{m-3}{5} \leq \frac{5}{5}$$

$$-\frac{5}{5} < m-3 \leq \frac{5}{5}$$

$$\frac{1}{5} < m \leq 1$$



$$-\frac{1}{5} < \frac{m-3}{5} \leq 1$$

۱, ۲, ۳, ۴, ۵, ۶, ۷, ۸
۸, ۷, ۶, ۵, ۴, ۳, ۲, ۱

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$$\tan 10 = \frac{1}{\sqrt{e}}$$

4

$$\frac{\sin(10) + k \cos(10)}{\cos(10) + \gamma \sin(10)} = \gamma$$

$$\frac{\sin(10) + k \cos(10)}{\cos(10) + \gamma \sin(10)} = \gamma$$

$\div \cos$

$$\frac{1 - k \tan 10}{-1 - \gamma \tan 10} = \gamma$$

$$\frac{1 - \frac{1}{\sqrt{e}} k}{-1 - \gamma \frac{1}{\sqrt{e}}} = \gamma$$

$$-\frac{1}{\gamma \sqrt{e}} = 1 - \frac{1}{\sqrt{e}} k$$

$$\frac{1}{\sqrt{e}} k = \frac{11}{\gamma} \quad (k = \gamma \sqrt{e})$$

$$\frac{1 - \cos}{1 + \cos} = \gamma$$

$$1 - \cos = \gamma + \gamma \cos$$

$$\gamma \cos = -1$$

$$\cos = \frac{1}{\gamma}$$

$$\sin = \frac{\sqrt{e}}{\gamma}$$



$$\tan = -\sqrt{e}$$

$$\cot = -\frac{1}{\sqrt{e}}$$

$$\frac{\tan(\frac{\pi}{\gamma} - \alpha) - \cot(\pi - \alpha)}{\cot(\frac{\pi}{\gamma} - \alpha) + \gamma \tan(\pi - \alpha)} = \frac{\cot \alpha + \cot \alpha}{\tan \alpha - \gamma \tan \alpha}$$

$$= \frac{-\frac{1}{\sqrt{e}} - \frac{1}{\sqrt{e}}}{\frac{1}{\sqrt{e}} - \frac{1}{\sqrt{e}}}$$

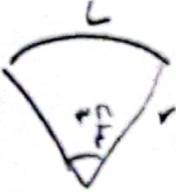
$$\frac{1 \cdot \pi}{\pi} = \frac{R}{\pi}$$

$$\frac{1 \cdot \pi}{\pi} = \frac{R}{\pi}$$

$$\frac{0 \cdot \pi}{\pi} = \frac{R}{\pi}$$

$$\frac{\gamma \cdot \pi}{\pi} = \frac{R}{\pi}$$

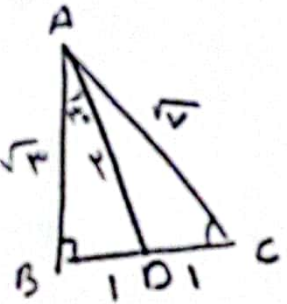
$$\frac{\gamma \cdot \pi}{\pi} = \frac{R}{\pi}$$



$$\frac{\gamma \pi}{\pi} \times \gamma A = \frac{\gamma \pi}{\pi} \times \gamma B$$

$$\frac{\gamma A}{\gamma B} = \frac{\frac{\gamma \pi}{\pi}}{\frac{\gamma \pi}{\pi}} = \frac{\gamma \pi}{\gamma \pi} = \frac{\gamma}{\gamma}$$

$$\frac{SA}{SB} = \frac{\gamma \pi}{\gamma \pi} = \frac{\gamma}{\gamma}$$



$$\frac{\sqrt{e} \times BC}{\gamma} = \sqrt{e}$$

$$BC = \gamma$$

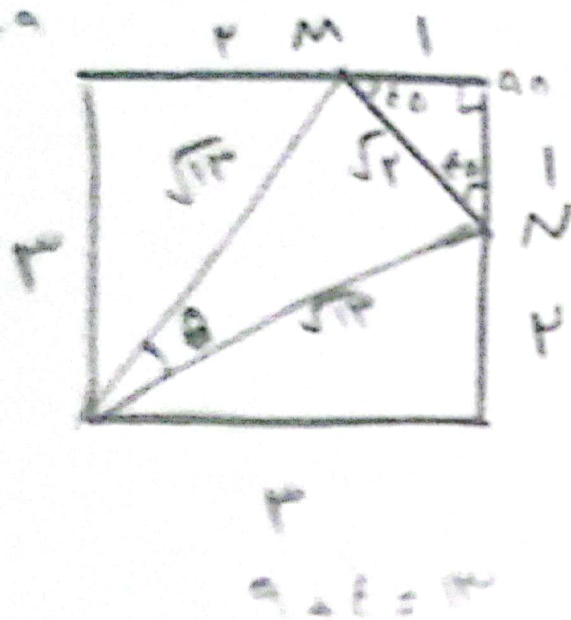
$$\gamma + \gamma = \sqrt{e}$$

$$\sin \gamma = \gamma \sin \alpha \cos \alpha$$

$$\gamma \times \frac{\sqrt{e}}{\gamma} \times \frac{\gamma}{\gamma} = \frac{\sqrt{e}}{\gamma}$$

$$\sin \gamma = \frac{1}{\gamma} = \frac{1}{\sqrt{e}}$$

10



110

$$S_1 = 9$$

$$S \frac{r \propto w}{r} = w$$

$$S \frac{1 \times 1}{r} = \frac{1}{r}$$

$$4 + \frac{1}{r} = \frac{w}{r}$$

$$S \frac{11}{r} - \frac{1w}{r} = \frac{2}{r}$$

$$\frac{1}{r} \sqrt{13} \times \sqrt{13} \times \sin \theta = \frac{2}{r}$$

$$\boxed{\sin \theta = \frac{2}{13}}$$

01/10