نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..۱۲.. کلاس .....

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$$\frac{a\sin(\pi+\frac{\pi}{6})+b\cos(\pi+\frac{\pi}{4})}{a\sin(2\pi-\frac{\pi}{4})+b\cos\frac{\pi}{6}}=\tan(\pi-\frac{\pi}{4})$$

$$\frac{-\frac{\sqrt{6}}{2}a-\frac{\sqrt{2}}{2}b}{-\frac{a}{2}+\frac{b}{2}}=-\frac{\sqrt{6}}{3} \qquad \frac{a\sqrt{6}+b\sqrt{6}}{b-a}=\frac{\sqrt{6}}{6} \qquad \frac{a+b}{b-a}=\frac{1}{3}$$

$$2a+6b=b-a \Rightarrow \frac{b}{a}=-2$$

۲

$$P\left(\frac{1}{2},\frac{\sqrt{6}}{2}\right) \Rightarrow P_{\text{زاویه}}=60^\circ \Rightarrow P\hat{O}P'=150^\circ$$

$$\overline{PP'}^2=1^2+1^2-2\times1\times1\times\cos150^\circ \qquad PP'^2=2-\sqrt{3} \Rightarrow PP'=\sqrt{2+\sqrt{6}}$$

محیط: $1+1+\sqrt{2+\sqrt{6}}=2+\sqrt{2+\sqrt{6}}$

۳

min	ℓ
2π	$\frac{\pi}{4}$
?	$\frac{\pi}{9}$

$$?=\frac{2\pi}{6}=24^\circ \xrightarrow{\text{هر ۳۰ دقیقه}} 24\times8\times30 \rightarrow 2:40$$

۴

$$\text{زاویه بین عقربه‌ها}=|5/5M-30h|$$

$$|5/5M-30\times3|=20$$

- $M=\frac{V_0}{5/5}$ بار اول ×
- $M=20$ بار دوم ✓ ۲۰ دقیقه

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$$-\frac{1}{2}<\sin\alpha\leq1$$

$$-\frac{1}{2}<\frac{m-3}{5}\leq1$$

$$\frac{1}{2}<m\leq8 \Rightarrow$$ ۸ عدد صحیح

$$\frac{\sin(90+15)+K\cos(270-15)}{\cos(180-15)+2\sin(180+15)} = \frac{\cos 15 - K\sin 15}{-\cos 15 - 2\sin 15} = \frac{1-K\tan 15}{-1-2\tan 15} = 11$$

$$1-\frac{K}{4} = -3-\frac{9}{4} \rightarrow \frac{-K}{4} = \frac{-21}{4}$$

$$\frac{1-\frac{K}{4}}{-1-\frac{1}{2}} = 3 \qquad 1-\frac{K}{9} = -\frac{9}{2} \qquad \frac{K}{9} = \frac{11}{2} \qquad K = \frac{99}{2} \qquad K = 22$$

٦

$$\frac{\cot x + \cot x}{\tan x - 2\tan x} = \frac{2\cot x}{-\tan x} = -2\cot x \cdot \frac{1}{\tan x} = -2\cot^2 x = -2 \times \frac{1}{8} = -\frac{1}{4}$$

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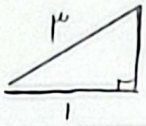
$$1-\cos x = 2+2\cos x$$

$$\cos x = -\frac{1}{3}$$



$$\cot x = -\frac{1}{2\sqrt{2}}$$

(٣)

$$18 \times \frac{\pi}{180} = \frac{3\pi}{5}$$

$$l_A = l_B$$

$$\frac{S_A}{S_B} = \frac{R_A^2}{R_B^2} = \frac{9}{25}$$

$$R_A\theta_A = R_B\theta_B$$

$$R_A \times \frac{3\pi}{5} = R_B \times \frac{9\pi}{10}$$

$$\frac{R_A}{R_B} = \frac{3}{2}$$

(٢)

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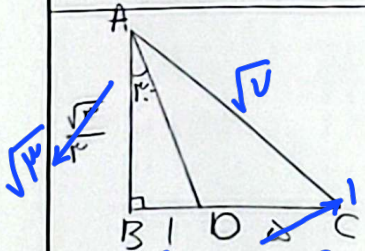

$$AB = \tan 30 \times 1 = \frac{\sqrt{3}}{3}$$

$$\frac{AB \times BC}{2} = \sqrt{3} \Rightarrow BC = 4$$

$$\tan\hat{C} = \frac{\frac{\sqrt{3}}{3}}{4} = \frac{\sqrt{3}}{12}$$

$$\sin 2\hat{C} = \frac{2\tan C}{1+\tan^2 C}$$

$$\sin 2\hat{C} = \frac{\frac{\sqrt{3}}{6}}{1+\frac{1}{48}} = \frac{\frac{\sqrt{3}}{6}}{\frac{49}{48}}$$

$$= \frac{12\sqrt{3}}{49}$$

(٥)

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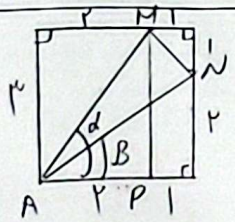
$$\frac{AB \times BC}{2} = \frac{\sqrt{3} \times BC}{2} = \sqrt{3} \rightarrow BC = 2$$

$$\sin 2\hat{C} = 2\sin\hat{C}\cos\hat{C} = 2 \times \frac{\sqrt{3}}{\sqrt{7}} \times \frac{2}{\sqrt{7}} = \frac{4\sqrt{3}}{7}$$



$$\sin\theta = \sin(\alpha-\beta) = \sin\alpha\cdot\cos\beta - \sin\beta\cdot\cos\alpha$$

$$\frac{3}{\sqrt{13}} \times \frac{3}{\sqrt{13}} - \frac{2}{\sqrt{13}} \times \frac{2}{\sqrt{13}} = \frac{5}{13}$$

(٢)

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$$MP = 3$$

$$AN = AM = \sqrt{13}$$