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المعادلة - 11

$$\frac{a \sin 15^\circ + b \cos 15^\circ}{a \sin 25^\circ + b \cos 25^\circ} = \tan 15^\circ \quad \text{①}$$
$$\frac{a \times \frac{\sqrt{3}}{2} + b \times -\frac{1}{2}}{a \times -\frac{1}{2} + b \times \frac{1}{2}} = \left(-\frac{\sqrt{3}}{2} \right)$$

$b = -\frac{1}{\sqrt{3}}$

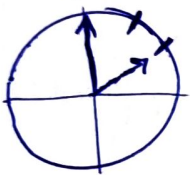
$$\frac{ra}{r} + \frac{rb}{r} = \frac{b}{r} - \frac{a}{r}$$
$$\frac{ra}{r} = -\frac{rb}{r} \quad b = -ra \quad \boxed{\frac{b}{a} = -r}$$

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دقیقه شمار ساعت شمار

$\frac{11}{3}$	$2H$
$\frac{11}{9}$	α

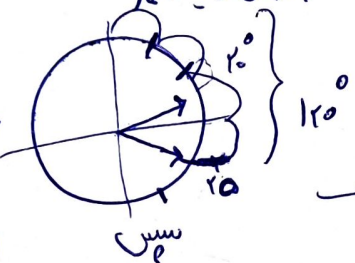


اشارا

ساعت اول = $2^{\circ}00'$

$$\alpha = \frac{2H}{3} \rightarrow 120^{\circ}$$

جورفتن دقیقه شمار



مستطیل

اگر عقربه ساعت شمار $\frac{11}{3}$ به طرف دقیقه شمار $2H$ بچرخد

$\frac{11}{3}$	110
$\frac{11}{9}$	α

$$= \alpha = 20^{\circ}$$

جورفتن ساعت شمار

جلو آمدن ساعت شمار

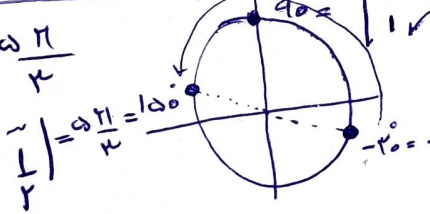
نصف دقیقه است

$$2 \times 20 = 40 = 2^{\circ}00'$$

$$\text{ساعت جبره} = 2^{\circ}00'$$

$$\rightarrow 2 = 20$$

$$-\frac{\pi}{9} < \alpha \leq \frac{\omega \pi}{\pi}$$



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

$$-\frac{1}{2} < \frac{m-3}{\omega} \leq 1 \rightarrow \frac{1}{2} < m \leq 1$$

$$\frac{\sin(90^{\circ} + 1\omega) + k(\cos(2\omega - 1\omega))}{\cos(110^{\circ} - 1\omega) + 2\sin(110^{\circ} + 1\omega)} = 3$$

$$\frac{\cos 1\omega - k \sin 1\omega}{-\cos 1\omega - 2 \sin 1\omega} = 3 \rightarrow \cos 1\omega$$

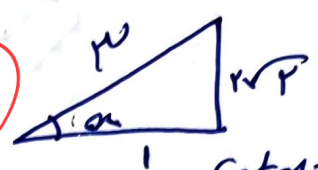
$$\frac{1 - 0.1\omega k}{-1 - 0.1\omega} = 3$$

$$\frac{1 - \frac{1}{\varepsilon} k}{-1 - \frac{1}{\varepsilon}} = 3$$

$$1 - \frac{k}{\varepsilon} = -3 - \frac{1}{\varepsilon} \rightarrow k = 2\varepsilon$$

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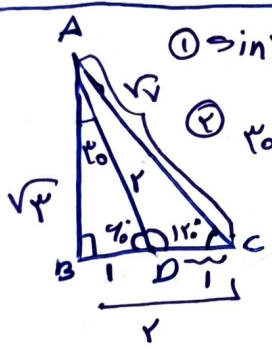
$$\frac{1 - \cos \alpha}{1 + \cos \alpha} = r \quad 1 - \cos \alpha = r + r \cos \alpha \quad \cos \alpha = -\frac{1}{r}$$



(1)

جبر از معادله عبارتی از روی دایره منطبق

$$\frac{\cot \alpha + \cot \alpha}{\tan \alpha - r \tan \alpha} \rightarrow \frac{r \cot \alpha}{- \tan \alpha} = \frac{\frac{r}{r \sqrt{r}}}{-\frac{r}{r \sqrt{r}}} = \frac{-r}{1} = -\frac{1}{\epsilon} \quad \tan \alpha = r \sqrt{r}$$



① $\sin \alpha = \frac{1}{AD} = \frac{1}{r} \quad AB = r$

④ $S = \frac{\text{ارتفاع} \times \text{مساحت}}{r} \rightarrow \frac{BC \times \sqrt{r}}{r} = \sqrt{r}$

(4)

② $\alpha + 90 = 180 \quad 110 - 180 = -70$

③ $110 - 70 = 40$

⑤ $r^2 + AB^2 = r^2 \quad AB = \sqrt{r}$

⑥ $r^2 + \sqrt{r}^2 = AC^2 \quad AC = \sqrt{r}$

$\sin \alpha = r \sin \alpha \cos \alpha \rightarrow r \times \frac{\sqrt{r}}{\sqrt{r}} \times \frac{1}{\sqrt{r}} \rightarrow \frac{\epsilon \sqrt{r}}{\sqrt{r}}$

$\alpha = \frac{L}{r} \quad 101^\circ = 9^\circ \text{ ریزش} \rightarrow \frac{\pi}{180} \times \frac{110}{101} \quad \alpha = \frac{101\pi}{110} \quad LA = \frac{101\pi}{110} \times rA$

(1)

$LB = \frac{9\pi}{10} \times rB \quad LB = LA \rightarrow \frac{9\pi}{10} \times rB = \frac{101\pi}{110} \times rA \quad rB = \frac{101}{110} rA$

$\frac{SA}{SB} = \frac{rA^2}{rB^2} \Rightarrow \frac{rA^2}{\frac{101}{110} rA^2} = \boxed{\frac{9}{\epsilon}} \quad \checkmark \quad (2)$

$\alpha = |\omega M - \alpha_0 H| \quad \omega M + 90 = 10 \quad \omega M = 10 \quad \mu = 1, \sqrt{r} \quad (3)$

$\omega M = 11$

زاویه بین ساعت و دقیقه

مساوی از گذشتن ۱۲، ۷۲ دقیقه
مساوی از گذشتن ۱۲، ۷۲ دقیقه

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