نام و نام خانوادگی ..لیلی..طباطبایی..... پاسخنامه تشریحی تکلیف شماره .....۱۲..... کلاس ...شنبه..دوازدهم...

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$$\frac{a\sin\frac{4\pi}{3}+b\cos\frac{7\pi}{4}}{a\sin\frac{11\pi}{4}+b\cos\frac{\pi}{3}}=\tan\frac{5\pi}{4}\Rightarrow\frac{-\frac{\sqrt{3}}{2}a-\frac{\sqrt{2}}{2}b}{-\frac{1}{2}a+\frac{1}{2}b}=-\frac{\sqrt{3}}{3}\Rightarrow\frac{-\frac{\sqrt{2}}{2}(a+b)}{-\frac{1}{2}(a-b)}=-\frac{\sqrt{3}}{3}$$

$$\frac{a+b}{a-b}=\frac{-1}{3}\Rightarrow 3a+3b=-a+b\Rightarrow 4a=-2b\Rightarrow\frac{b}{a}=-2$$

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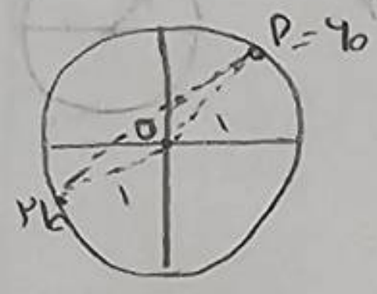
$$P\left(\frac{1}{2},y\right)\rightarrow\frac{\sqrt{3}}{2}\Rightarrow P=60^\circ\xrightarrow{\text{۲۱۰ خلاف}}210^\circ$$



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۱ ساعت	$\frac{\pi}{6}$
$\frac{2}{3}$ ساعت	$\frac{4}{9}$

$\frac{4}{9}$ ساعت $\xrightarrow{\text{ساعت}}$ ۴۰ دقیقه $\xrightarrow{\text{قدیم}}$ ۲:۴۰

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$$\left|\frac{11M}{2}-360H\right|=\alpha\Rightarrow\left|\frac{11M}{2}-90\right|=20\Rightarrow\frac{11M}{2}-90=-20\Rightarrow\frac{11M}{2}=70\Rightarrow M=\frac{140}{11}\simeq 12.7$$

$$\frac{11M}{2}-90=20\Rightarrow\frac{11M}{2}=110\Rightarrow M=20$$

پس از ساعت ۲ دقیقه

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$$\frac{-\pi}{6}<\gamma\leq\frac{5M}{9}\Rightarrow\frac{-1}{2}<\sin\gamma\leq 1\Rightarrow\frac{-1}{2}<\frac{M-3}{5}\leq 1\Rightarrow -2<M-3\leq 5\Rightarrow 1<M\leq 8$$

۸ عدد صحیح

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$$\frac{\sin(110^\circ)+k\cos(220^\circ)}{\cos(140^\circ)+2\sin(190^\circ)}=3 \Rightarrow \frac{\cos 10^\circ+k\sin 10^\circ}{-\cos 10^\circ-2\sin 10^\circ}=3$$

$$\Rightarrow \cos 10^\circ - k\sin 10^\circ = -3\cos 10^\circ - 6\sin 10^\circ$$

$$\Rightarrow 4\cos 10^\circ - \sin 10^\circ(k+6)=0$$

$$\Rightarrow \frac{\sin 10^\circ}{\cos 10^\circ}=\frac{4}{k+6}=\frac{1}{4}$$

$$\Rightarrow k+6=14 \Rightarrow \boxed{k=10}$$

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$$\frac{1-\cos x}{1+\cos x}=2 \Rightarrow 2+2\cos x = 1-\cos x \Rightarrow \cos x=-\frac{1}{3} \Rightarrow \cos^2 x+\sin^2 x=1 \Rightarrow \frac{1}{9}+\sin^2 x=1$$

$$\Rightarrow \sin x = \oplus \frac{\sqrt{8}}{3}$$

$$\frac{\tan(\frac{\pi}{2}-x)-\cot(\pi-x)}{\cot(\frac{3\pi}{2}-x)+2\tan(2\pi-x)}=\frac{2\cot x}{-3\tan x}=\frac{-2}{3}\times -\sqrt{8}=\boxed{\frac{2\sqrt{8}}{3}}$$

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$$150^\circ=\frac{3\pi}{\omega} \quad \text{شعاع دایره A} = a$$

$$\frac{9\pi}{10} \quad \text{شعاع دایره B} = b$$

$$\Big\} \Rightarrow \frac{3\pi}{\omega}a=\frac{9\pi}{10}b \Rightarrow a=2b$$

$$\frac{\text{مساحت A}}{\text{مساحت B}}=\frac{\pi a^2}{\pi b^2}=\frac{(2b)^2}{b^2}=\boxed{4}$$

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$$\frac{1}{2}BC\cdot AC\cdot \sin C=\sqrt{3}$$

$$\frac{1}{AB}=\tan 30^\circ = \frac{AB}{AC}$$

$$\Big\} \Rightarrow \frac{1}{2}\times\sqrt{3}\times BC=\sqrt{3} \Rightarrow BC=2 \Rightarrow DC=1$$

$$BC^2+AB^2=AC^2 \Rightarrow 4+3=AC^2 \Rightarrow AC=\sqrt{7} \Rightarrow \sin C=\frac{\sqrt{3}}{\sqrt{7}} \Rightarrow \cos C=\frac{2}{\sqrt{7}}$$

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

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$$MN=\sqrt{2}$$
$$AM=\sqrt{12}$$
$$AN=\sqrt{12}$$

$$\Big\} \text{ فیثاغورس} \quad (MN)^2=(AM)^2+(AN)^2-2\cdot AM\cdot AN\cdot\cos\theta$$

$$\Rightarrow \quad 2=24-24\cos\theta \Rightarrow 24\cos\theta=22 \Rightarrow \cos 2\theta=\frac{12}{13}$$

$$\cos^2\theta+\sin^2\theta=1 \Rightarrow \sin^2\theta=\frac{169}{169}-\frac{144}{169}=\frac{25}{169} \Rightarrow \boxed{\sin\theta=\frac{5}{13}}$$

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