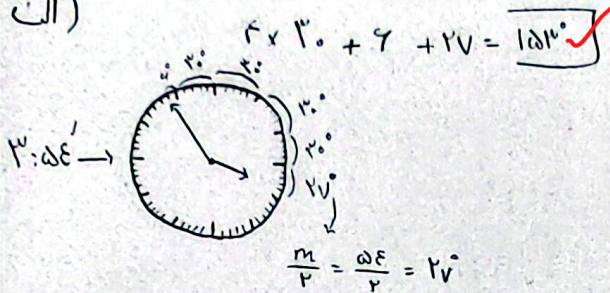


۱۹، ۵

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱۹ کلاس: (هم پایه) A

الف)



ب) $\theta = |5.5m - 30h|$

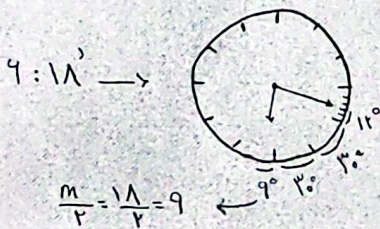
$\rightarrow |5.5 \times 54 - 30 \times 3|$

$= |297 - 90| = 207$

$340 - 207 = 133^\circ$

الف)

$2 \times 30 + 12 + 9 = 111^\circ$



ب) $\theta = |5.5m - 30h|$

$\rightarrow |5.5 \times 18 - 30 \times 4|$

$= |99 - 120| = 21^\circ$

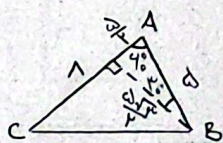
$S_{\text{قطاع}} = \frac{\alpha}{r} R^2 = \frac{\pi}{r} \times 9 = \frac{\pi}{r} \times 9^2 = \frac{81\pi}{r}$

$S_{\text{قطاع}} = \alpha R = \frac{\pi}{r} \times 9 = \frac{\pi}{r} + 27 = 4 + \frac{7}{r}$

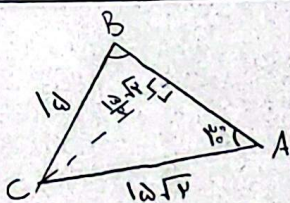
نصف هارو
حساب ندری

$S_{ABC} = \frac{1}{r} AB \times AC \times \sin 40^\circ = \frac{1}{r} \times 5 \times 4 \times \frac{\sqrt{3}}{r} = 10\sqrt{3}$

$AB_{\text{مساحت}} = AB + AC + BC = 5 + 4 + 7 = 16$



$BC = \sqrt{\frac{141}{r} + \frac{7\Delta}{r}} = \sqrt{\frac{194}{r}} = \frac{14}{r} = 7$



$\sin \hat{B} = \frac{15}{15\sqrt{2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2} \rightarrow \hat{B} = 45^\circ$

$\hat{C} = 15^\circ - 45^\circ = 10^\circ$

$\hat{B} = \frac{r\Delta}{180} = \frac{\pi}{180} \rightarrow \pi = \frac{54\pi}{r} = \frac{\pi}{r}$

$\hat{C} = \frac{10\Delta}{180} = \frac{\pi}{180} \rightarrow \pi = \frac{10\pi}{r} = \frac{7\pi}{r}$

$$\frac{\tan(\pi - \alpha) + r \tan(\pi + \alpha)}{\tan(r\pi - \alpha) - \tan(r\pi + \alpha)} = \frac{-\tan \alpha + r \tan \alpha}{-\tan \alpha - \tan \alpha} = \frac{r \tan \alpha}{-2 \tan \alpha} = -\frac{r}{2} \quad (r)$$

$$\tan \frac{\pi}{4} = a \rightarrow \tan 15^\circ = a, \cot 15^\circ = \frac{1}{a}$$

$$A = \frac{r \tan 15^\circ + \tan 15^\circ}{r \tan 15^\circ - \tan 15^\circ} = \frac{r \cot 15^\circ + \tan(\frac{\pi}{4} + 15^\circ)}{-r \tan 15^\circ - \tan(\frac{\pi}{4} - 15^\circ)} = \frac{r \cot 15^\circ - \cot 15^\circ}{-r \tan 15^\circ - \cot 15^\circ}$$

$$\Rightarrow \frac{\frac{r}{a} - \frac{1}{a}}{-ra - \frac{1}{a}} = \frac{\frac{1}{a}}{\frac{-ra^2 - 1}{a}} = \frac{1}{-ra^2 - 1} \quad (r)$$

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

$$\rightarrow r = r \sin^2 - r \cos^2 \rightarrow r = r \sin^2 - r(1 - \sin^2) \Rightarrow r = r \sin^2 - r + r \sin^2$$

$$\rightarrow \sin^2 = \frac{a}{r}, \cos^2 = 1 - \frac{a}{r} = \frac{r-a}{r}, \tan^2 = \frac{\sin^2}{\cos^2} = \frac{\frac{a}{r}}{\frac{r-a}{r}} = \frac{a}{r-a} \quad (r)$$

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

$$\rightarrow r \sin^2 x = 2 \rightarrow \sin^2 x = \frac{2}{r}, \cos^2 x = 1 - \frac{2}{r} = \frac{r-2}{r}, \tan^2 x = \frac{\frac{2}{r}}{\frac{r-2}{r}} = \frac{2}{r-2} \quad (r)$$

$$a) \cos(45^\circ) \Rightarrow \cos(2 \times 22.5^\circ)$$

$$\cos(2\alpha) = \cos^2 \alpha - \sin^2 \alpha \rightarrow \cos 45^\circ = \cos^2 22.5^\circ - \sin^2 22.5^\circ \Rightarrow \frac{\sqrt{2}}{2} = \cos^2 22.5^\circ - 1 + \cos^2 22.5^\circ$$

$$\rightarrow \frac{1 + \sqrt{2}}{2} = \cos^2 22.5^\circ \rightarrow \cos(22.5^\circ) = \frac{\sqrt{1 + \sqrt{2}}}{2} \quad (r)$$

$$b) \sin(45^\circ) \Rightarrow \sin 45^\circ = \cos 22.5^\circ \text{ پس } \sin 45^\circ = \frac{\sqrt{1 + \sqrt{2}}}{2}$$