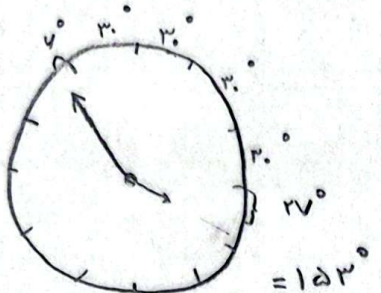
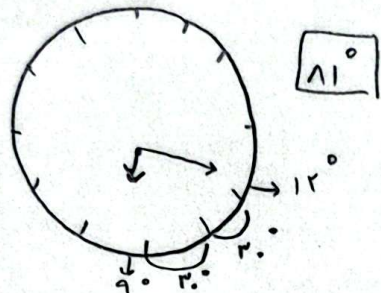


الف) 	ب) $ 5.5 - 3.h = 2.7^\circ$ $34.5 - 2.7 = 15.3^\circ$	۱
الف) 	ب) $ 5.5 - 3.h = 11^\circ$	۲
الف) $\frac{\alpha}{r} R^2 = \frac{9\pi}{12} = \frac{3\pi}{4}$ ب) $P = \alpha R + 2R = 9 + \frac{\pi}{2}$		۳
الف) $s = \frac{bc \sinh A}{r} = 10\sqrt{3}$ ب) $a = \sqrt{b^2 + c^2 - 2bc \cos A} = \sqrt{49} = 7$ $p = a + b + c = 7 + 11 + 10 = 28$		۴
الف) $\hat{B} + \hat{C} = 150^\circ \Rightarrow \hat{A} = 30^\circ$ $\frac{a}{\sin A} = \frac{b}{\sin B} \Rightarrow \frac{10}{\frac{1}{2}} = \frac{10\sqrt{3}}{\sin B} \Rightarrow \sin B = \frac{\sqrt{3}}{2} \Rightarrow B = 60^\circ$ ب) $\hat{A} = 30^\circ, \hat{B} = 60^\circ, \hat{C} = 90^\circ$ $B = \frac{\pi}{6}, C = \frac{5\pi}{6} = \frac{10}{24} \pi = \frac{5\pi}{12}$		۵

$$\frac{\tan(\pi - \alpha) + r \tan(\alpha + \pi)}{\tan(r\pi - \alpha) - \tan(r\pi + \alpha)} = \frac{-\tan \alpha + r \tan \alpha}{-\tan \alpha - \tan \alpha} = \frac{r \tan \alpha}{-r \tan \alpha} = -1$$

8

$$\left. \begin{aligned} \tan V\Delta^\circ &= \cot \frac{\pi}{1r} \\ \tan 1\Delta^\circ &= -\cot \frac{\pi}{1r} \\ \tan 14\Delta^\circ &= -\tan \frac{\pi}{1r} \\ \tan r\Delta^\circ &= \cot \frac{\pi}{1r} \end{aligned} \right\} \Rightarrow A = \frac{r \tan V\Delta^\circ + \tan 1\Delta^\circ}{r \tan 14\Delta^\circ - \tan r\Delta^\circ} = \frac{r \cot \frac{\pi}{1r} - \cot \frac{\pi}{1r}}{-r \tan \frac{\pi}{1r} - \cot \frac{\pi}{1r}}$$

$$= \frac{\cot \frac{\pi}{1r}}{-r \tan \frac{\pi}{1r} - \cot \frac{\pi}{1r}} \Rightarrow A = \frac{1}{-ra - \frac{1}{a}} = \frac{1}{-ra^2 - 1} = \boxed{-\frac{1}{ra^2 + 1}}$$

9

$$\frac{\sin x + \cos x}{\sin x \cos x} + \frac{\sin x - \cos x}{\sin x + \cos x} = r$$

$$\frac{(\sin x + \cos x)^r + (\sin x - \cos x)^r}{\sin^r x - \cos^r x} = r$$

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

$$r = 4 \sin^r x - r \Rightarrow \sin^r x = \frac{4}{r}$$

$$\Rightarrow \cos^r x = \frac{1}{4} \Rightarrow \tan^r x = 2$$

10

$$\frac{1 - \cos^r x}{\sin^r x - r \cos^r x + 1} = f \Rightarrow \frac{r - r \cos^r x}{\cos^r x} = f \Rightarrow r \cos^r x = r \Rightarrow \cos^r x = \frac{r}{V}$$

$$\Rightarrow \sin^r x = \frac{4}{V} \Rightarrow \tan^r x = \frac{4}{r}$$

11

$$\text{ا) } \cos(r\pi, \alpha) = \frac{\sqrt{1 + \cos^2 \alpha}}{r} = \sqrt{\frac{1 + \sqrt{r}}{r}} = \sqrt{\frac{r + \sqrt{r}}{r}} = \sqrt{\frac{r + \sqrt{r}}{r}}$$

$$\text{ب) } \sin(r\pi, \alpha) = \sqrt{\frac{1 - \cos^2 \alpha}{r}} = \sqrt{\frac{1 + \sqrt{r}}{r}} = \sqrt{\frac{r + \sqrt{r}}{r}} = \frac{\sqrt{r + \sqrt{r}}}{r}$$

12

$$* \cos^r \alpha = \frac{1 + \cos^r x}{r}, \sin^r \alpha = \frac{1 - \cos^r x}{r} *$$