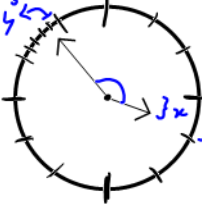
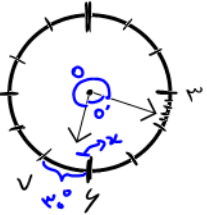


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الف)  $\frac{x}{36} = \frac{2}{3} \Rightarrow x = 24^\circ \Rightarrow \text{زاویه} = 24^\circ + 4 \times 36^\circ + 6^\circ = 150^\circ$

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ب) $|2,0m - 3 \cdot h| = 2,0 \times 54 - 3 \times 3 = 297 - 9 = 207^\circ \rightarrow$ زاویه خارجی
 $36^\circ - 207^\circ = 153^\circ \rightarrow$ زاویه داخلی

الف)  $\frac{18}{36} = \frac{x}{36} \Rightarrow x = 9^\circ \Rightarrow \text{زاویه داخلی} = 9^\circ + 36^\circ \times 2 + 2 \times 36^\circ = 111^\circ$
 $36^\circ - 111^\circ = 279^\circ \rightarrow$ زاویه خارجی

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ب) $|0,0m - 3 \cdot h| = 0,0 \times 18^\circ - 3 \times 36^\circ = |99^\circ - 18^\circ| = 81^\circ \rightarrow$ زاویه داخلی
 $36^\circ - 81^\circ = 279^\circ \rightarrow$ زاویه خارجی

الف) $S = R^2 \times \frac{1}{r} \times \hat{O} = 3^2 \times \frac{1}{r} \times \frac{\pi}{6} = \frac{9\pi}{12} = \frac{3\pi}{4}$

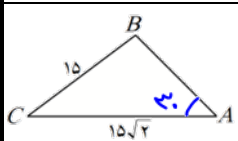
۳

ب) $\text{محیط} = \widehat{AB} + OB + OA = (R \times \hat{O}) + r + r = (3 \times \frac{\pi}{6}) + 3 + 3 = \frac{12 + \pi}{2}$

الف) $S = \sin \hat{A} \times \frac{1}{r} \times AB \times AC = \sin 60^\circ \times \frac{1}{r} \times 8 \times 4 = \frac{\sqrt{3}}{2} \times 40 = 10\sqrt{3}$

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ب) $BC = \sqrt{2^2 + 1^2 - 2 \times 2 \times 1 \times \cos 90^\circ} = \sqrt{2 + 1 - 0} = \sqrt{3} = 1$
 $\Rightarrow \text{محیط} = 2 + 1 + 1 = 4$



$\hat{B} + \hat{C} = 150^\circ \Rightarrow \hat{A} = 180^\circ - 150^\circ = 30^\circ \rightarrow \frac{\sin 30^\circ}{15} = \frac{\sin \hat{B}}{15\sqrt{2}} \Rightarrow \sin \hat{B} = \frac{1}{\sqrt{2}} \times \frac{1}{2} = \frac{\sqrt{2}}{2}$
 $\Rightarrow \hat{B} = 45^\circ \Rightarrow \hat{C} = 180^\circ - (30^\circ + 45^\circ) = 105^\circ$

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$\rightarrow \hat{C} = 105^\circ = \frac{7\pi}{12}, \hat{B} = 45^\circ = \frac{\pi}{4}$

$$\frac{\tan(\pi - \alpha) + r \tan(\pi + \alpha)}{\tan(r\pi - \alpha) - \tan(r\pi + \alpha)} = \frac{-\tan(\alpha) + r \tan(\alpha)}{-\tan(\alpha) - \tan(\alpha)} = \frac{r \tan(\alpha)}{-2 \tan(\alpha)} = -1$$

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$$\frac{\pi}{1r} = 10^\circ \quad \frac{r \tan 10^\circ + \tan 10^\circ}{r \tan 10^\circ - \tan 10^\circ} = \frac{r \times \tan(\frac{\pi}{r} - \frac{\pi}{1r}) + \tan(\frac{\pi}{r} + \frac{\pi}{1r})}{r \times \tan(\pi - \frac{\pi}{1r}) - \tan(\frac{r\pi}{r} - \frac{\pi}{1r})} = \frac{r \cot(\frac{\pi}{1r}) - \cot(\frac{\pi}{1r})}{-r \tan(\frac{\pi}{1r}) - \cot(\frac{\pi}{1r})}$$

$$\cot(\frac{\pi}{1r}) = \frac{1}{a} \Rightarrow = \frac{\frac{r}{a} - \frac{1}{a}}{-\frac{r}{a} - \frac{1}{a}} = \frac{1}{a} \times \frac{a}{-\frac{r}{a} - \frac{1}{a}} = -\frac{1}{r+1}$$

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

$$= \frac{r}{\sin^2 x - \cos^2 x} = r \Rightarrow \sin^2 x - \cos^2 x = \frac{r}{r} \Rightarrow 1 - r \cos^2 x = \frac{r}{r} \Rightarrow r \cos^2 x = \frac{1}{r} \Rightarrow \cos x = \frac{\sqrt{r}}{r}$$

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$$\frac{1}{\cos^2 x} = 1 + \tan^2 x \Rightarrow \tan^2 x = 0$$

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

$$\Rightarrow \tan^2 x = r, 0$$

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$$\text{الف) } \frac{1 - \cos(2r, 0^\circ)}{r} = \sin^2 r, 0^\circ \Rightarrow \sin^2 r, 0^\circ = \frac{r - \sqrt{r}}{r} \Rightarrow \sin r, 0^\circ = \pm \frac{\sqrt{r - \sqrt{r}}}{r}$$

$$1 \Rightarrow \sin r, 0^\circ = + \frac{\sqrt{r - \sqrt{r}}}{r}$$

$$\text{ب) } r, 0^\circ + r, 0^\circ = 90^\circ \Rightarrow \sin r, 0^\circ = \cos 90^\circ = \frac{\sqrt{r - \sqrt{r}}}{r}$$

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