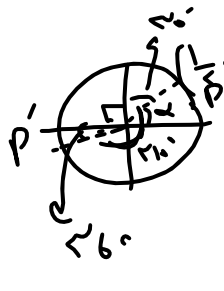


$$\frac{ax \frac{-\sqrt{3}}{2} + b \times \frac{-1}{2}}{ax \frac{1}{2} + b \times \frac{\sqrt{3}}{2}} = \frac{1}{\sqrt{3}} \Rightarrow \frac{b}{a} = -2$$

۱



$\cos \alpha = \frac{1}{2} \Rightarrow \alpha = 60^\circ$

$$PP' = \sqrt{1^2 + 1^2 - 2 \cos 120^\circ \times 1 \times 1} = \sqrt{2 + \sqrt{3}}$$

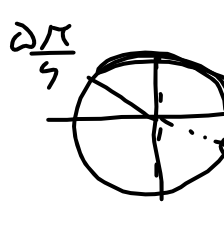
محیط $= 2 + \sqrt{2 + \sqrt{3}}$

۲

$$\frac{\frac{\pi}{9}}{\frac{2\pi}{12}} = \frac{n_{\min}}{90_{\min}} \Rightarrow n = 40 \Rightarrow 2: \dots + 0: 40 = 2: 40$$

۳

۴



$$-\frac{1}{2} < \sin x \leq 1 \Rightarrow -\frac{1}{2} < \frac{\pi - x}{2} \leq 1$$

$$\Rightarrow -\frac{\pi}{2} < \pi - x \leq 2$$

$$0 < x \leq \pi$$

۵

شماره اعداد صحیح

$$\frac{\cos 12^\circ - K \sin 12^\circ}{-\cos 12^\circ - r \sin 12^\circ} = r$$

$$\frac{5 - K}{-5 - r} = r$$

$$\tan 12^\circ = r/2 \begin{cases} \sin 12^\circ \sim 1 \\ \cos 12^\circ \sim r \end{cases}$$

$$\Rightarrow 5 - K = -18$$

$$\Rightarrow K = 23$$

6

$$\frac{1 - \cos n}{1 + \cos n} = r \Rightarrow \cos n = -\frac{1}{r} \xrightarrow{r \rightarrow 6} \cot n = -\frac{\sqrt{r}}{r}$$

$$\text{مربع} = -\frac{r \cot n}{\tan n} = -r \cos n = -\frac{1}{r}$$

عبارت

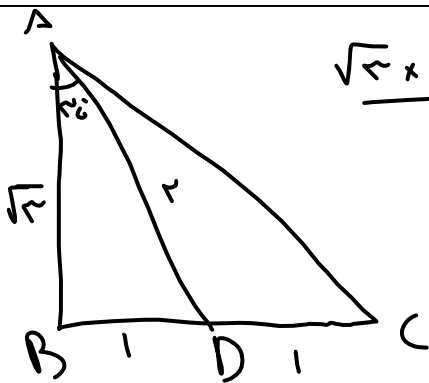
7

$$101^\circ = \frac{r\pi}{\Delta}$$

$$\frac{r\pi}{\Delta} \times r_1 = \frac{9\pi}{10} \times r_2 \Rightarrow \frac{r_1}{r_2} = \frac{r}{r}$$

$$\frac{s_1}{s_2} = \left(\frac{r_1}{r_2}\right)^2 \Rightarrow \frac{s_1}{s_2} = \frac{9}{r}$$

8



$$\frac{\sqrt{r} \times (1 + 1)}{r} = \sqrt{r} \Rightarrow CD = 1 \Rightarrow AC = \sqrt{V}$$

$$\sin 2C = r \sin C \cos C$$

$$\sin 2C = r \times \frac{\sqrt{r}}{\sqrt{V}} \times \frac{r}{\sqrt{V}} = \frac{r\sqrt{r}}{V}$$

9

$$S_{MNA} = 9 - 9/2 = 4.5$$

$$= \frac{1}{r} (\sqrt{r})^2 \times \sin \theta \Rightarrow \sin \theta = \frac{2}{1r}$$

10