

معدی مونی

الف) $27^\circ = (n) \text{ rad}$ $\frac{D}{110} = \frac{R_{\text{rad}}}{\pi} \rightarrow \frac{27}{110} = \frac{R_{\text{rad}}}{\pi} \rightarrow R_{\text{rad}} = \frac{27\pi}{110}$ (1)

ب) $120^\circ = (n) \text{ rad}$ $\frac{120}{110} = \frac{R_{\text{rad}}}{\pi} \rightarrow R_{\text{rad}} = \frac{120\pi}{110}$

ج) $\frac{D\pi}{12} \text{ rad} = (n)^\circ$ $\frac{D\pi}{12} \times \frac{110}{\pi} = 120^\circ$

د) $\frac{2\pi}{9} \text{ rad} = (n)^\circ$ $\frac{2\pi}{9} \times \frac{110}{\pi} = 110^\circ$

$\frac{120a}{9} G = 120^\circ$, $\frac{a\pi}{9} \text{ rad} = 120^\circ \Rightarrow 10a + 120a + 120a = 20a = 110$ (2)

$a = 4^\circ$

الف) $\cos 90^\circ \sin 90^\circ - (\sin 90^\circ \cos 90^\circ) - \tan 45^\circ + \cot 45^\circ \Rightarrow \cos 90^\circ - \cos 90^\circ \Rightarrow$ (3)

جواب = $2(1) - 1 = 1$

ب) $\tan 30^\circ = \frac{\sin}{\cos} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$, $\tan 60^\circ = 1$, $\tan 90^\circ = \frac{\sqrt{3}}{1} = \sqrt{3}$

$\cot 30^\circ = \sqrt{3}$, $\cot 90^\circ = \frac{1}{\sqrt{3}}$

$\frac{(\frac{\sqrt{3}}{3})^2 + (1)^2 + (\sqrt{3})^2}{\frac{\sqrt{3}}{3} - \frac{1}{\sqrt{3}}} = \frac{\frac{3}{9} + 1 + 3}{\frac{2\sqrt{3}}{3}} = \frac{13}{2\sqrt{3}}$

~~$\sin 30^\circ \cos 90^\circ + \cos 30^\circ \sin 90^\circ = \sin \theta$~~ $\rightarrow -\sin 30^\circ \times \sin 90^\circ + (\cos 30^\circ \times \cos 90^\circ)$ (4)

$\rightarrow -\sin^2 + \cos^2 \rightarrow \cos^2 30^\circ - \sin^2 30^\circ = \sin^2 \theta \rightarrow \frac{3}{4} - \frac{1}{4} = \frac{2}{4} = \sin^2 \theta$

$\rightarrow \sin \theta = \frac{\sqrt{2}}{2} \rightarrow \theta = 45^\circ$ $\tan 45^\circ = \frac{1}{1} = 1$

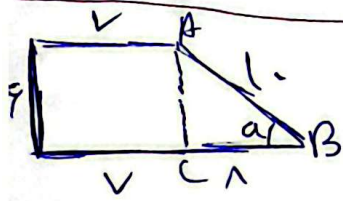
$\tan \theta = 0 \rightarrow \frac{\sin}{\cos} = 0 \rightarrow \sin = 0 \cos \rightarrow \frac{1 \sin \theta - \cos \theta}{\sin \theta - 2 \cos \theta} = \frac{1 \cos \theta - \cos \theta}{0 \cos \theta - 2 \cos \theta}$ (5)

$\rightarrow \frac{1 \cos \theta}{1 \cos \theta} = 1$

سوال 5 لا یقیناً بعد تو سم

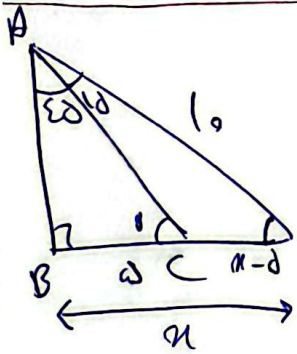
$$\frac{r \tan^2 \theta (1 - \tan^2 \theta)}{(1 - \cot^2 \theta)} = \tan \theta \Rightarrow \frac{r \sqrt{r} (1 - \frac{r}{9})}{1 - \frac{r}{9}} = \frac{r \sqrt{r}}{r} = \tan \theta$$

$$\theta = 50^\circ \rightarrow \delta \times \frac{\pi}{180} = \frac{5\pi}{18}$$



$$\sin \alpha = \frac{9}{10} \rightarrow \overline{AB} = 10 \rightarrow 10^2 = 9^2 + \overline{BC}^2 \rightarrow \overline{BC} = 8$$

$$\text{محيط} = 1 + 9 + 8 + 10 = 38$$



$$110 - (50 + 90) = 30 = \hat{P} \rightarrow \overline{AB} = 10$$

$$110 - (50 + 90) = 30 = \hat{C}_1 \rightarrow \overline{AB} = \frac{\sqrt{r}}{r} \times AC \rightarrow d = \frac{\sqrt{r}}{r} AC$$

$$\rightarrow AC = d\sqrt{r} \rightarrow 10 \times r = d \times \overline{BC} + r \times d \rightarrow \overline{BC} = r \times d \rightarrow \overline{BC} = d$$

$$100 = r \times d + 10^2 \rightarrow 10 = \sqrt{r \times d} = \sqrt{r \times d} - d = \sqrt{r \times d} - d$$

$$d(\sqrt{r} - 1)$$

ابع سطر لان

ب) ابع سطر

$$\tan \alpha = \frac{1}{r} = \frac{\sin \alpha}{\cos \alpha} \rightarrow \sin \alpha = \cos \alpha \rightarrow \sin^2 \alpha + \cos^2 \alpha = 1 \rightarrow \sin^2 \alpha + \sin^2 \alpha = 1$$

$$1. \sin^2 \alpha = 1 \rightarrow \sqrt{1} \cdot \sin \alpha = 1 \rightarrow \sin \alpha = \frac{1}{\sqrt{10}} = \frac{\sqrt{10}}{10}$$