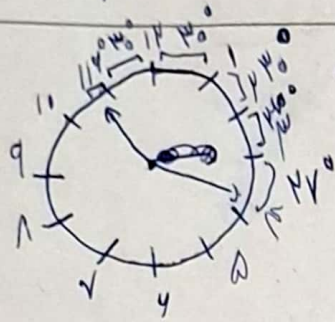




هر دقیقه ۱/۲

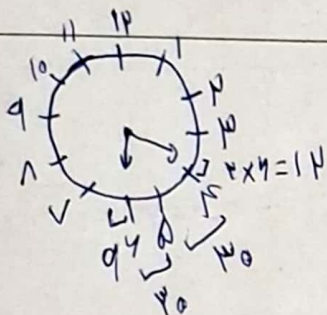
$$\frac{12}{40} \times 30 = 9$$

$$\frac{12}{40} \times 30 + 4 + 27 = 31$$

$$|12/40m - 30H|$$

$$= \frac{12}{40} \times 30 - 30 \times 4 = 9 - 120 = -111$$

$$30 \times 4 - 120 = 120 - 120 = 0$$



$$\frac{12}{40} \times 30 = 9$$

$$9 + 12 + 40 = 61$$

$$|12/40m - 30H|$$

$$\frac{12}{40} \times 30 - 30 \times 4 = 9 - 120 = -111$$

$$120 - 120 = 0$$

ب) $p = \alpha r = \frac{\pi}{4} \times 30 = \frac{\pi}{4}$

$$\frac{\pi}{4} + 4$$

مقطع قطاع

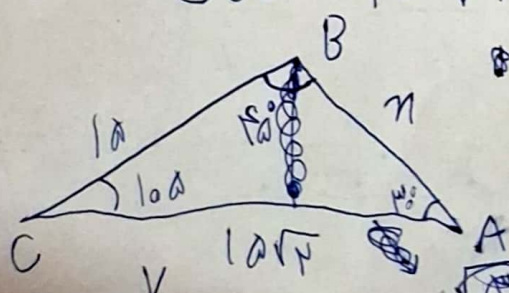
الف) $S = \frac{\alpha}{4} r^2 = \frac{\pi}{14} \times 9 = \frac{\pi}{2}$

الف) $S_{ABC} = AB \times AC \times \sin 40^\circ \times \frac{1}{2} = \frac{8 \times 1}{2} \times \frac{\sqrt{3}}{2} = 4\sqrt{3}$

$BC^2 = AC^2 + AB^2 - 2AB \times AC \times \cos 40^\circ = 4^2 + 1^2 - 2 \times 4 \times 1 \times \cos 40^\circ = 17 - 8 \cos 40^\circ$

$\Rightarrow BC = \sqrt{17 - 8 \cos 40^\circ}$

$P = V + 1 + 4 = 10$



$\hat{B} + \hat{C} = 140^\circ \Rightarrow A = 40^\circ$

$$\frac{10}{\sin 40^\circ} = \frac{10\sqrt{3}}{\sin B}$$

$$\frac{1}{2} \frac{BC}{\sin A} = \frac{AB}{\sin 40^\circ} = \frac{AC}{\sin B}$$

$\frac{10\sqrt{3}}{10} = \sin B = \frac{\sqrt{3}}{2}$

$\Rightarrow B = 60^\circ$

$\hat{C} = \frac{10}{4} = \frac{5}{2}$

$\hat{C} = \frac{5\pi}{14}$

$B = \frac{5\pi}{14}$

$B = \frac{\pi}{2}$

$$-\tan \alpha$$

$$1 + \tan \alpha$$

$$\tan(\pi - \alpha) + \tan(\pi + \alpha)$$

$$\tan(\pi - \alpha) - \tan(\pi + \alpha)$$

$$-\tan \alpha$$

$$\tan \alpha$$

$$\cot \alpha$$

$$-\cot \alpha$$

$$\tan \frac{\pi}{n} = \tan \left(\frac{\pi}{n} - \alpha \right) + \tan \left(\frac{\pi}{n} + \alpha \right)$$

$$\frac{1}{\tan \alpha} = \frac{1}{\tan \alpha}$$

$$= \frac{1}{\tan \alpha} = \frac{1}{\tan \alpha}$$

$$\tan(\pi - \alpha) - \tan(\frac{\pi}{n} - \alpha)$$

$$-\tan \alpha$$

$$+\cot \alpha$$

$$\frac{-1}{\tan \alpha + 1}$$

$$\frac{\sin \alpha + \cos \alpha}{\sin \alpha - \cos \alpha} + \frac{\sin \alpha - \cos \alpha}{\sin \alpha + \cos \alpha} = 1$$

$$\frac{(\sin \alpha + \cos \alpha)^n + (\sin \alpha - \cos \alpha)^n}{(\sin \alpha + \cos \alpha)^n - (\sin \alpha - \cos \alpha)^n} = 1$$

$$\Rightarrow \frac{\sin^n \alpha + \cos^n \alpha}{\sin^n \alpha - \cos^n \alpha} = 1 - \cos^n \alpha = \frac{1}{4}$$

$$\Rightarrow \cos^n \alpha = \frac{1}{4}$$

$$1 - \cos^n \alpha = \sin^n \alpha = 1 - \frac{1}{4} = \frac{3}{4}$$

$$\tan^n \alpha = \frac{\sin^n \alpha}{\cos^n \alpha} = \frac{\frac{3}{4}}{\frac{1}{4}} = 3$$

$$\frac{\sin^n \alpha - \cos^n \alpha + 1}{\sin^n \alpha + \cos^n \alpha - 1} = 1$$

$$\frac{1 - \cos^n \alpha}{1 + \cos^n \alpha - 1} = 1$$

$$\sin^n \alpha + \cos^n \alpha - 1$$

$$1 + \cos^n \alpha - 1$$

$$1 - \cos^n \alpha$$

$$\cos^n \alpha = 1 - \cos^n \alpha$$

$$\Rightarrow \sin^n \alpha = 1 - \cos^n \alpha = 1 - \frac{1}{4} = \frac{3}{4}$$

$$\Rightarrow \tan^n \alpha = \frac{\sin^n \alpha}{\cos^n \alpha} = \frac{\frac{3}{4}}{\frac{1}{4}} = 3$$

$$\cos(\frac{\pi}{4})$$

$$\Rightarrow \cos \frac{\pi}{4} = \frac{1}{\sqrt{2}}$$

$$\sin(\frac{\pi}{4})$$

$$\sin \alpha = 1 - \cos \alpha$$

$$\Rightarrow \sin \alpha = \frac{1}{\sqrt{2}}$$

$$\frac{1}{\sqrt{2}}$$