

$$\cos \beta = \frac{OT}{OB} \quad \cos\left(\frac{\pi}{4} - \alpha\right) = \sin \alpha \quad \beta = \frac{\pi}{4} - \alpha$$

$$\Rightarrow \sin \alpha = \frac{1}{1+AB} \Rightarrow AB = \frac{1}{\sin \alpha} - 1 \Rightarrow \frac{1 - \sin \alpha}{\sin \alpha}$$

$$\frac{\gamma}{\sqrt{2}} = \frac{AB}{\sin(\pi - \alpha)} \quad \frac{\mu}{1} = \frac{AC}{\sin \alpha} \Rightarrow \frac{12}{\sqrt{2}} = \frac{AB}{\sin \alpha}$$

$$\gamma = \frac{AC}{\sin \alpha} \Rightarrow \frac{\sqrt{2} AB}{12} = \frac{AC}{\gamma} \Rightarrow \frac{AB}{AC} = \frac{\gamma}{\sqrt{2}} = \sqrt{2}$$

$$\cos \alpha = \frac{1}{\gamma} \Rightarrow \alpha = 60^\circ, \sin \beta = \frac{1}{\gamma} \Rightarrow \beta = 30^\circ \quad \{ AB^2 = OB^2 + OA^2 \Rightarrow AB = \sqrt{2} \}$$

$\alpha + \beta + \theta = 180^\circ \Rightarrow \theta = 90^\circ$ $B = \frac{1}{\gamma} AC$ B زاریه محاطی است (درست)

$$\Rightarrow B = \frac{1}{\gamma} (AM + MC) = \frac{1}{\gamma} (15^\circ) = 75^\circ$$

$C = \frac{1}{\gamma} AB = \frac{1}{\gamma} (90^\circ) = 45^\circ$ $\hat{A} = 180^\circ - (45^\circ + 75^\circ) = 60^\circ$ $\sin \hat{A} = \frac{\sqrt{3}}{\gamma}$

C زاریه محاطی است:

بقی دایره محاطی: $\frac{\sqrt{2}}{2 \times \sqrt{2}} = \frac{\sin 60^\circ}{BC} \Rightarrow BC = \sqrt{3}$ $\frac{\sqrt{2}}{2 \times \sqrt{2}} = \frac{\sin 75^\circ - \sin(30^\circ + 45^\circ)}{AC}$

$$\Rightarrow \frac{\sin 30^\circ \cos 45^\circ + \cos 30^\circ \sin 45^\circ}{AC} = \frac{\sqrt{2} + \sqrt{2}}{2} \Rightarrow AC = \frac{\sqrt{2} + \sqrt{2}}{2}$$

من راه حل دوم برای مقایسه مسافت را پایین

ادامه سوال ۱۳: بزرگ برای شما نوشتن

الف) $S = \frac{1}{\gamma} \times \sqrt{2} \times \frac{\sqrt{2} + \sqrt{2}}{2} \times \frac{\sqrt{3}}{\gamma} = \frac{1 + \sqrt{3}}{\gamma}$

ب) $S = \frac{1}{\gamma} \times \sqrt{2} \times \frac{\sqrt{2} + \sqrt{2}}{2} \times \frac{\sqrt{3}}{\gamma} = \frac{2\sqrt{3} + 4}{\gamma} = \frac{\sqrt{3} + 3}{\gamma}$

نقطه A: $(\frac{1}{\gamma}, \frac{\sqrt{3}}{\gamma})$
 نقطه B: $(-\frac{\sqrt{3}}{\gamma}, \frac{1}{\gamma})$
 نقطه C: $(0, -1)$

$$1 = \gamma \cos^k - \cos^r - \sin^r (\gamma \sin^r - 1)$$

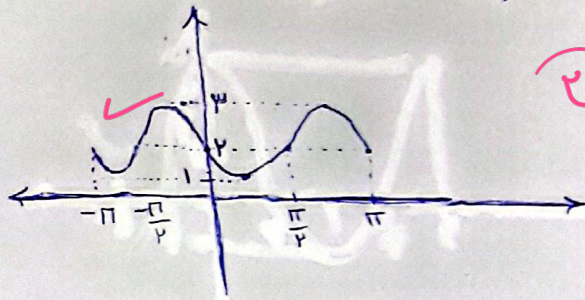
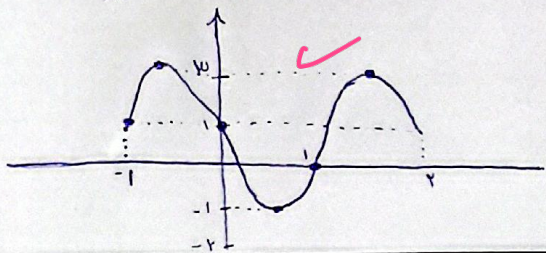
$$1 = \gamma \cos^k - \cos^r - \gamma \sin^k + \sin^r \Rightarrow \cos^r - \sin^k + 1 = \gamma (\cos^k - \sin^k)$$

$$\cos 2\alpha + 1 = \gamma \cos 2\alpha \Rightarrow 1 = \cos 2\alpha \Rightarrow \sin^2 + \cos^2 = 1$$

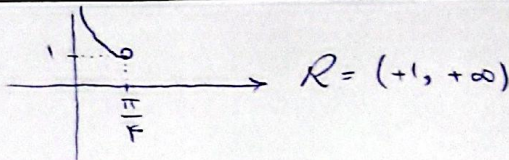
$$\Rightarrow \sin^2 2\alpha = 0 \Rightarrow \sin 2\alpha = 0$$

ب) $y = 2 \cos(\pi x + \frac{\pi}{2}) + 1 = -2 \sin(\pi x) + 1$ الف) $y = -2 \sin 2x + 1$ $T = \frac{2\pi}{2} = \pi$

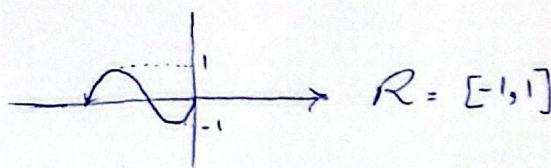
$T = \frac{2\pi}{\pi} = 2$



$\cot x \quad 0 < x < \frac{\pi}{2}$



$\sin x \quad x \leq 0$



$R = (-1, +\infty)$

$R = [-1, 1]$

$f(x) = a + \frac{b}{r} \sin \pi C x \cos \pi C x = a + \frac{b}{r} \sin \pi C x$

$T = \frac{\pi}{r} - \frac{\pi}{1} = \frac{\pi}{\Delta} \Rightarrow |b| = \Delta = \pi C \Rightarrow C = \pm \frac{\Delta}{\pi} \Rightarrow C = \frac{\Delta}{\pi}$

$\frac{b}{r} = r \Rightarrow b = 1 \quad a = r$

$\frac{bc}{a} = \frac{1 \times \frac{\Delta}{\pi}}{r} = \Delta$

$T = \pi = \frac{\pi \pi}{|b|} \Rightarrow b = \pm \pi \quad a = -\pi \quad C = -1$ باتجاه به شکل غدار و بر د

$f(x) = -\pi \cos \pm \pi x - 1 = 0 \Rightarrow \cos \pm \pi x = \pm \frac{1}{\pi}$

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

$|\cos \pi x| = 1$

$f(-\pi, \Delta) = f(-\pi \times \pi + 1, \Delta) = f(1, \Delta)$

$T_{\rightarrow, \Delta, \Delta} = \pi$

$a = \frac{0-1}{\pi-0} = -\frac{1}{\pi} \quad b = 1$

$y = -\frac{1}{\pi} x + 1$

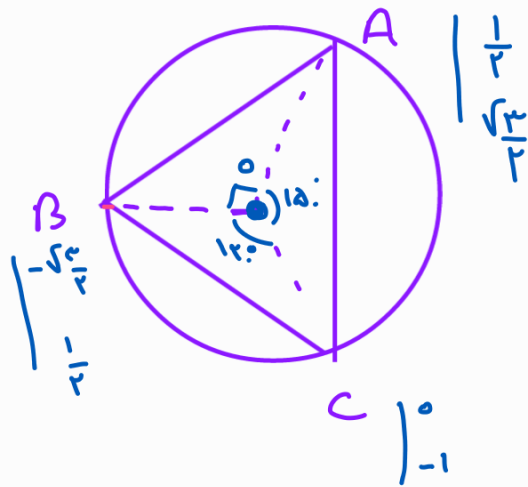
$f(1, \Delta) = -\frac{1}{\pi} \times \frac{\Delta}{1} + 1 = \frac{1}{\pi}$

$S = \frac{1}{2} AB \cdot AC \cdot \sin A \Rightarrow \frac{1}{2} \times (\log_{\pi}^{\pi})^2 \times \frac{1}{\pi}$

$$S_{ABC} = \frac{1}{2} \times AB \times AC \times \sin \frac{\pi}{4} = \frac{1}{2} \times 1 \times \sqrt{2} \times 1 \times \frac{1}{\sqrt{2}}$$

سوال ۴

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



$$S_{AOC} = \frac{1}{2} \times 1 \times 1 \times \sin \frac{\pi}{3} = \frac{1}{2} \times \frac{\sqrt{3}}{2} = \frac{\sqrt{3}}{4}$$

سوال ۳

$$S_{OAR} = \frac{1}{2} \times 1 \times 1 \times \sin \frac{\pi}{3} = \frac{\sqrt{3}}{4}$$

الف *

$$S_{OBC} = \frac{1}{2} \times 1 \times 1 \times \sin \frac{\pi}{3} = \frac{\sqrt{3}}{4}$$

$$S_{ABC} = \frac{\sqrt{3}}{4} + \frac{\sqrt{3}}{4} + \frac{\sqrt{3}}{4} = \frac{3\sqrt{3}}{4}$$