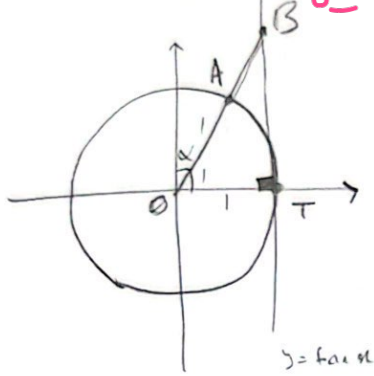


۲. آندین ضلعی که مدنظر است ۱۱

بنا

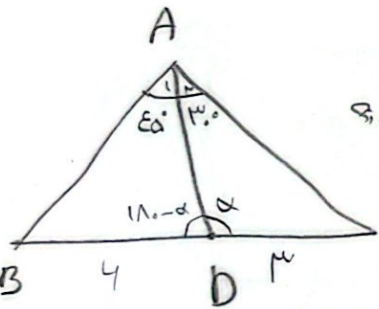
برای حل این مسئله، ما از یک دایره واحد استفاده می‌کنیم.



$$\begin{aligned} AB &= ? \quad \hat{\alpha} + \hat{O}_1 = 90^\circ \rightarrow \sin \hat{\alpha} = \cos \hat{O}_1 \quad (1) \\ \cos \hat{O}_1 &= \frac{1}{OB} = \sin \hat{\alpha} \\ OB &= OA + AB = 1 + AB \end{aligned} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} \rightarrow \sin \hat{\alpha} = \frac{1}{1+AB}$$

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

$$AB = \frac{1 - \sin \hat{\alpha}}{\sin \hat{\alpha}}$$

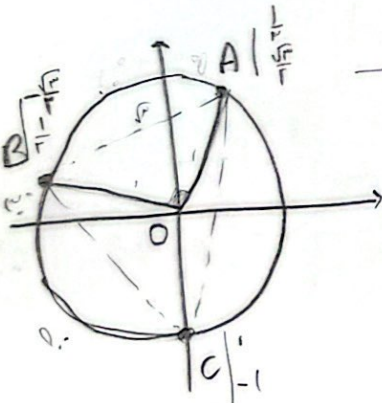


$$\text{در } \triangle ABD: \frac{AB}{\sin(120^\circ - \alpha)} = \frac{BD}{\sin \hat{A}} = \frac{4}{\frac{\sqrt{3}}{2}}$$

$$\frac{AB}{AC} = ? \quad (2)$$

$$\text{در } \triangle ADC: \frac{DC}{\sin \hat{A}} = \frac{AC}{\sin \hat{\alpha}} \Rightarrow \frac{AC}{\sin \hat{\alpha}} = \frac{3}{\frac{1}{2}} = 6$$

$$\left. \begin{array}{l} \Rightarrow \frac{AB}{\sin \hat{\alpha}} = 4\sqrt{3} \\ \Rightarrow \frac{AC}{\sin \hat{\alpha}} = 6 \end{array} \right\} \div \rightarrow \frac{AB}{AC} = \frac{4\sqrt{3}}{6} = \frac{2\sqrt{3}}{3}$$



$$AB = \sqrt{\left(\frac{1}{2}\right)^2 + \left(\frac{\sqrt{3}}{2}\right)^2} = \sqrt{1} = 1$$

$$\text{مسئله } \hat{ABC} = ? \quad (3)$$

$$AC = \sqrt{\left(\frac{1}{2}\right)^2 + \left(\frac{\sqrt{3}}{2}\right)^2} = \sqrt{\frac{1+3}{4}} = \sqrt{1} = 1$$

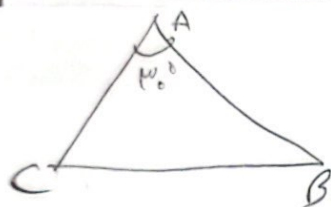
$$BC = \sqrt{\left(\frac{\sqrt{3}}{2}\right)^2 + \left(\frac{1}{2}\right)^2} = \sqrt{\frac{3+1}{4}} = \sqrt{1} = 1$$

$$\hat{A} = 120^\circ, \frac{1}{2} \hat{BC} = \frac{1}{2} \times 120^\circ = 60^\circ \Rightarrow \hat{ABC} = \frac{1}{2} \times AB \times AC \times \sin \hat{A} = \frac{1}{2} \times 1 \times 1 \times \sin 120^\circ = \frac{\sqrt{3}}{4}$$

$$= \frac{\sqrt{3}}{4} \times \sqrt{\frac{3+1}{4}} = \frac{\sqrt{3}}{4} (\sqrt{1} + 1) = \frac{1+\sqrt{3}}{4}$$

$$\text{مسئله } \hat{ABC} = ? \quad (4)$$

$$P_{\triangle ABC} = AB + AC + BC = 1 + 1 + 1 = 3$$



$$AC = \log_{\mu} 14, AB = \log_{\mu} 14$$

(14)

$$S_{ABC} = \frac{1}{2} \times AB \times AC \times \sin \frac{\pi}{2} = \frac{1}{2} \times \log_{\mu} 14 \times \log_{\mu} 14 = 0$$

$$\frac{1}{2} \times \mu \log_{\mu} 14 \times \mu \log_{\mu} 14 = \mu \times \log_{\mu} 14 \times \log_{\mu} 14 = \mu \times 1 = \mu \text{ جابر}$$

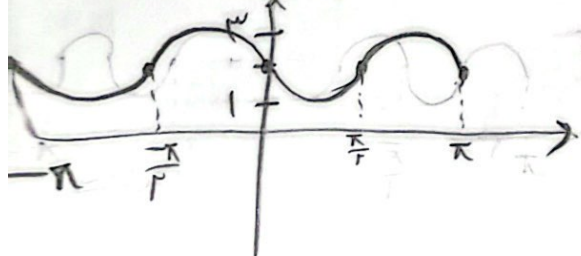
$$\mu^r - \mu^r - \sin^r(\alpha)(\mu \sin^r \alpha - 1) \underline{\underline{x = \cos \alpha}} \quad \mu \cos^r \alpha - \cos^r \alpha - \sin^r \alpha - \cos^r \alpha = -\cos^r \alpha$$

$$\cos^r \alpha (\mu \cos^r \alpha - 1) + \sin^r \alpha \cdot \cos^r \alpha = \cos^r \alpha (\cos^r \alpha + \sin^r \alpha) = 1 \quad \left. \begin{array}{l} \text{مربع} \\ \text{نفرین} \\ \text{ساز} \end{array} \right\}$$

$$\Rightarrow \cos^r \alpha \neq 1 \Rightarrow \sin^r \alpha = 1 - \cos^r \alpha = 1 - 1 = 0 \quad \sin^r \alpha = 0$$

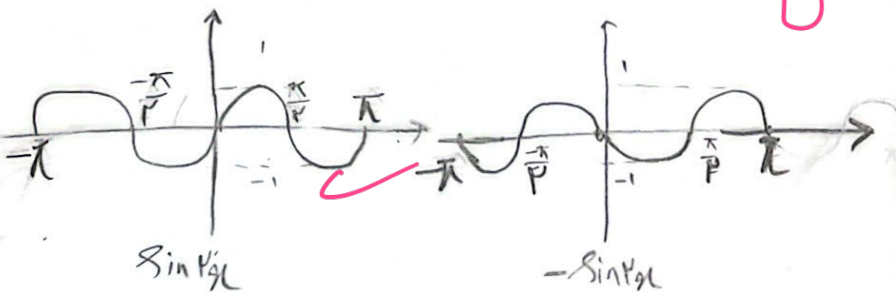
$$\text{الف) } y = -r \sin \pi \cos \pi + r \quad \underline{\sin \pi \cos \pi = \frac{1}{r} \sin^r \pi} \quad y = -\sin^r \pi + r$$

$$T = \frac{r\pi}{|r|} = \pi$$



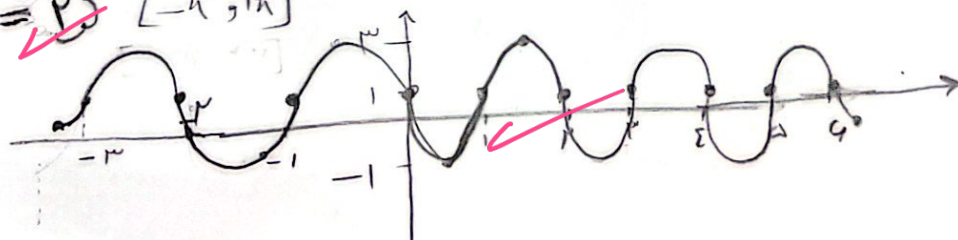
$$-\sin^r \pi + r$$

$$[-\pi, \pi]$$

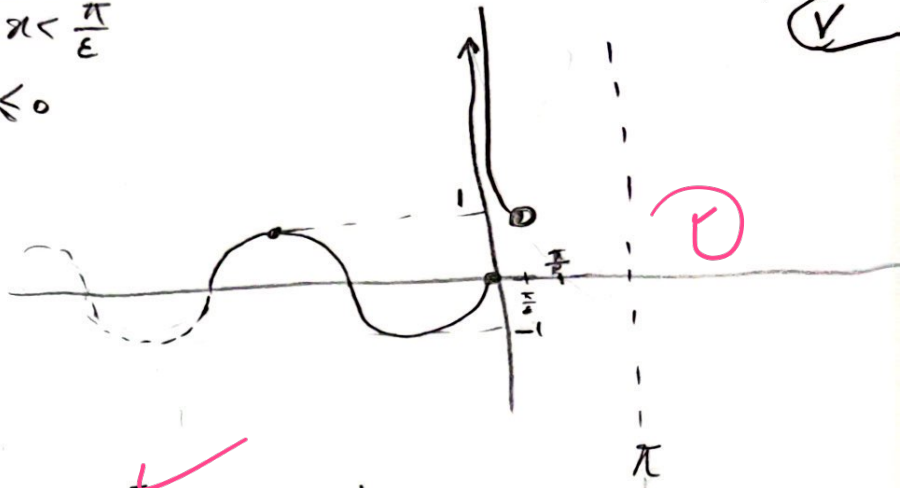
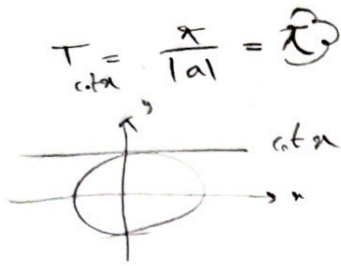


$$\text{ب) } r \cos\left(\pi + \frac{1}{r}\right) + 1 = r \cos\left(\pi \pi + \frac{\pi}{r}\right) + 1 = -r \sin(\pi \pi) + 1$$

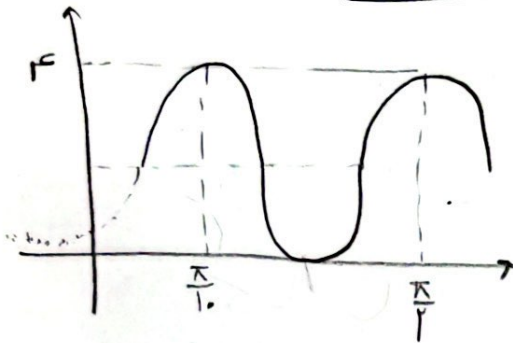
$$T = \frac{r\pi}{|r|} = \pi \quad [-\pi, \pi]$$



$$f(x) = \begin{cases} \cot x & ; 0 < x < \frac{\pi}{2} \\ \sin x & ; x \leq 0 \end{cases}$$



$$R_f = [-1, +\infty)$$



$$f(x) = a + b \sin(c x) \cos(c x) \Rightarrow$$

$$f(x) = a + \frac{b}{2} \sin(2 c x) \Rightarrow$$

$$f(x) = a + \frac{b}{2} \sin(2 c x)$$

$$T = \frac{\pi}{c} - \frac{\pi}{c} = \frac{2\pi}{c} = \frac{2\pi}{1} = 2\pi$$

$$\Rightarrow T = \frac{2\pi}{|c|} = \frac{2\pi}{1} \Rightarrow c = 1$$

$$\Rightarrow c = 1 \Rightarrow c = \frac{\omega}{2\pi}$$

$$\frac{b}{2} = \frac{\max f - \min f}{2} = \frac{2 - 0}{2} = 1 \Rightarrow \frac{b}{2} = 1 \Rightarrow b = 2$$

$$x = \frac{\pi}{2} \rightarrow a + 2 \sin\left(\frac{\pi}{2}\right) = a + 2 = 2 \Rightarrow a = 0$$

$$\frac{bc}{a} = \frac{2 \times \frac{\omega}{2\pi}}{1} = \frac{\omega}{\pi}$$

$$f(x) = a \cos(b x) + c, \quad |\tan \varphi| = ?$$

$$\frac{2\pi}{|b|} = \pi \Rightarrow |b| = 2 \Rightarrow b = \pm 2$$

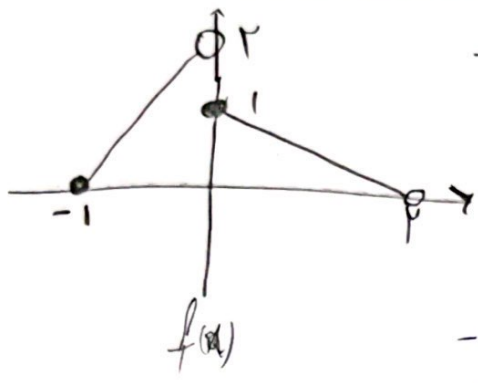
$$\cos x = 1 \rightarrow a + c = 2$$

$$\cos x = -1 \rightarrow -a + c = -2$$

$$\begin{cases} c = -1 \\ a = 3 \end{cases}$$

$$\Rightarrow f(x) = 3 \cos(2x) - 1 \Rightarrow f(x) = 3 \cos(2x) - 1 = 0 \Rightarrow \cos(2x) = \frac{1}{3} \Rightarrow 2x = \arccos\left(\frac{1}{3}\right) \Rightarrow x = \frac{1}{2} \arccos\left(\frac{1}{3}\right)$$

$$1 + \tan^2 \varphi = \frac{1}{\cos^2 \varphi} = \frac{1}{\frac{1}{9}} = 9 \Rightarrow \tan^2 \varphi = 8 \Rightarrow |\tan \varphi| = 2\sqrt{2}$$



دوره، $T = 3$

$F(-34, 5) = ?$

$2, -1, -4, -7, \dots$

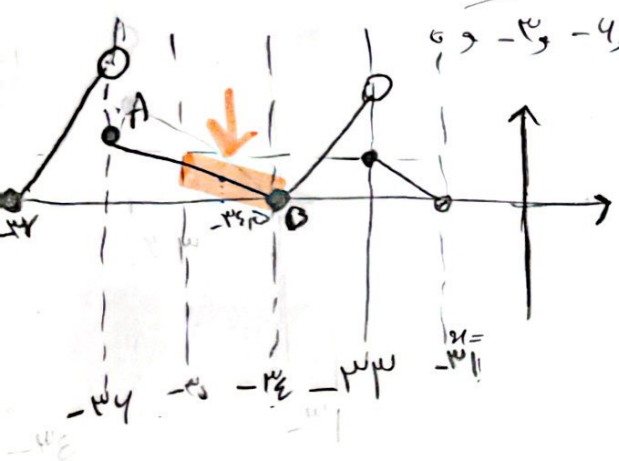
$-3n + 5 \quad n \geq 1$

$-1, -4, -7, \dots$

$-3n + 2 \quad n \geq 1$

آنکه اعداد داخل در صفر x :

آنکه اعداد تکریم در صفر x :



آنکه مثل هر عدد با صفر y : $9, -3, -6, -9, \dots$

به شکلی صفر

$F(-34, 5)$

به صفر - قبل ضرایب x

$AB \text{ شیب} = \frac{-1}{2} \Rightarrow y_{AB} = \frac{-1}{2}x + 1$

$x = -34, 5 \Rightarrow x = 1, 5 \Rightarrow y = \frac{-1}{2} \times \frac{5}{1} + 1 = \frac{1}{2}$

$f(-34, 5) = \frac{1}{2} = 0, 5$