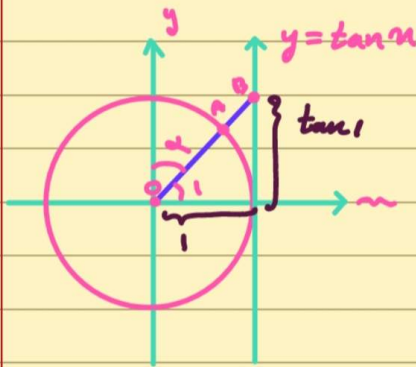


۲. آفرین خیره آمد نوشت !!

سارینا عابدینی



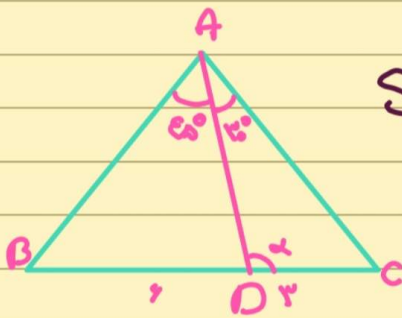
$$\alpha + 1 = \frac{\pi}{2}$$

۱-۲

$$OB^2 = 1 + \tan^2 \alpha = 1 + \cot^2 \alpha = \frac{1}{\sin^2 \alpha}$$

$$OB = \frac{1}{\sin \alpha}$$

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

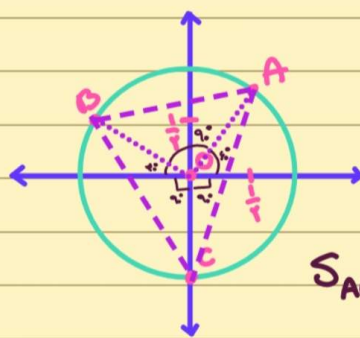


$$S_{ABD} = 2 S_{ACD}$$

$$\frac{1}{2} \sin 60^\circ \times AD \times AB = 2 \times \frac{1}{2} \sin 30^\circ \times AD \times AC$$

$$\frac{\sqrt{3}}{2} AB = AC \Rightarrow \frac{AB}{AC} = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$$

۳-۲



$$C \rightarrow \hat{A} = \frac{1}{2} \Rightarrow \hat{A} = 30^\circ$$

$$\sin \hat{B} = \frac{1}{2} \Rightarrow \hat{B} = 150^\circ$$

(الف)

$$S_{AOC} = \frac{1}{2} \sin (30^\circ + 30^\circ) \times 1 \times 1 = \frac{1}{2}$$

$$S_{AOB} = \frac{1}{2} \sin (150^\circ - 30^\circ) \times 1 \times 1 = \frac{1}{2}$$

$$S_{BOC} = \frac{1}{2} \sin (30^\circ + 30^\circ) \times 1 \times 1 = \frac{\sqrt{3}}{2}$$

$$S_{ABC} = \frac{1}{2} + \frac{1}{2} + \frac{\sqrt{3}}{2} = \frac{1+\sqrt{3}}{2}$$

سارینا عابدینی

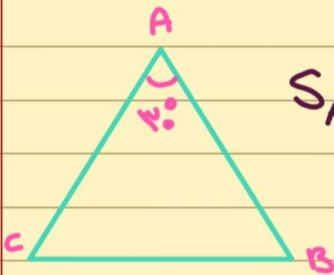
$$C = \sqrt{a^2 + b^2 - 2ab \cos C}$$

$$AC = \sqrt{1 + 1 - 2 \cos 120^\circ} = \sqrt{2 + \sqrt{3}}$$

$$AB = \sqrt{1 + 1} = \sqrt{2}$$

$$BC = \sqrt{1 + 1 - 2 \cos 120^\circ} = \sqrt{2 + \sqrt{3}}$$

$$P_{ABC} = \sqrt{2 + \sqrt{3}} + \sqrt{2} + \sqrt{2 + \sqrt{3}}$$



$$S_{ABC} = \frac{1}{2} \sin 120^\circ \times \frac{\sqrt{2}}{2} \times \frac{\sqrt{2 + \sqrt{3}}}{2}$$

$$S_{ABC} = \frac{1}{2} \times \frac{1}{2} \times \frac{\sqrt{2}}{2} \times \frac{\sqrt{2 + \sqrt{3}}}{2} = \frac{\sqrt{2 + \sqrt{3}}}{4}$$

$$f(x) = x^2 - 2x - \sin^2(\alpha) (x \sin \alpha - 1)$$

$$f(\cos \alpha) = \cos^2 \alpha - \cos^2 \alpha - \sin^2 \alpha - \sin^2 \alpha$$

$$1(\cos^2 \alpha - \sin^2 \alpha) - (\cos^2 \alpha - \sin^2 \alpha) = 1 \Rightarrow \cos^2 \alpha - \sin^2 \alpha - \cos^2 \alpha - \sin^2 \alpha = 1$$

$$(\cos^2 \alpha - \sin^2 \alpha)(\cos^2 \alpha + \sin^2 \alpha)$$

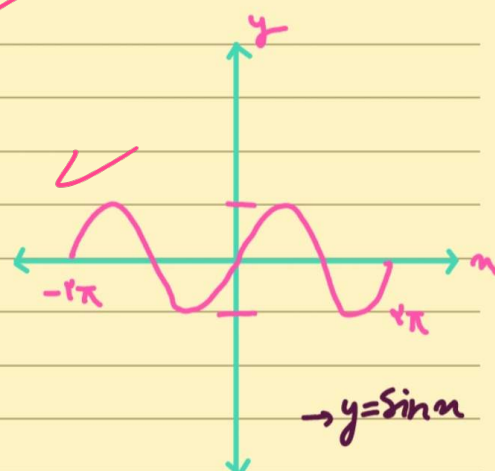
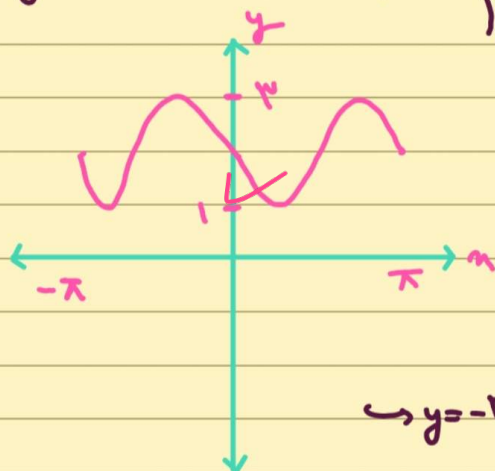
$$\cos^2 \alpha - \sin^2 \alpha = 1 \Rightarrow \cos^2 \alpha = 1$$

$$\sin^2 \alpha = 1 - \cos^2 \alpha = 0 \rightarrow \sin \alpha = 0$$

الف) $y = -2 \sin n \cos n + 2 \quad [-\pi, \pi]$

-2
2

$y = -\sin^2 n + 2 \rightarrow T = \frac{2\pi}{|b|} \rightarrow T = \frac{2\pi}{1} = \pi$

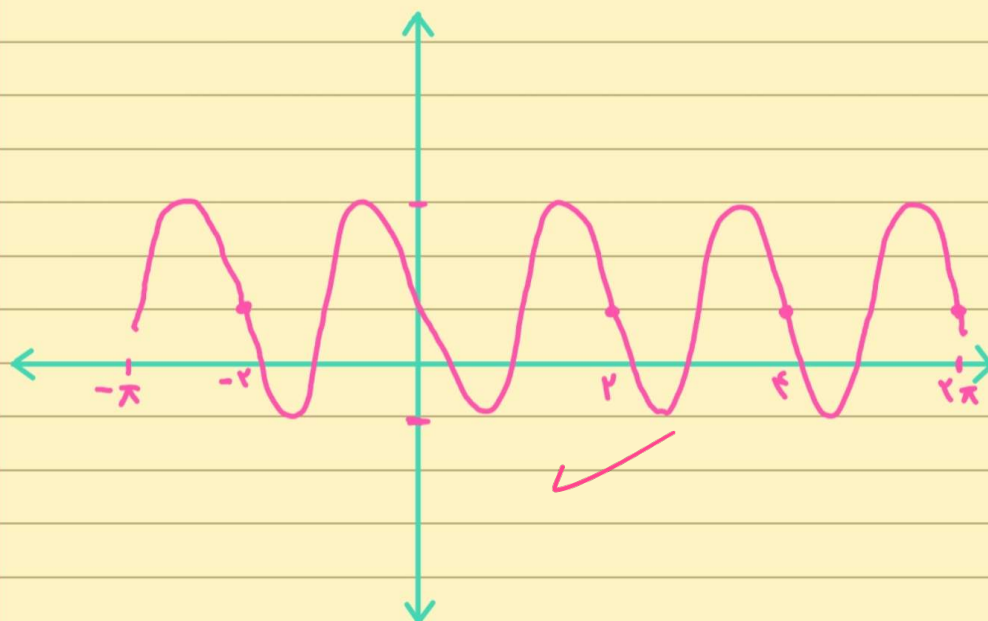


ب) $y = 2 \cos(n + \frac{1}{\pi})\pi + 1 \quad [-\pi, 2\pi]$

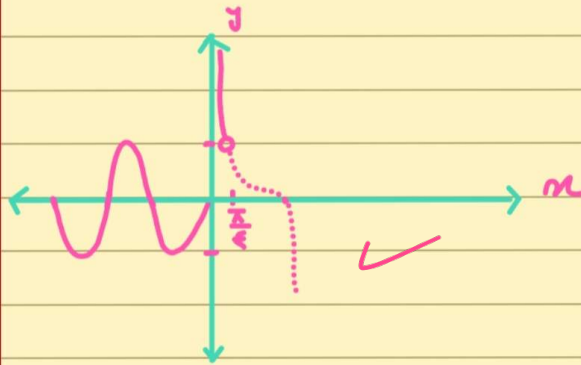
$y = 2 \cos(\pi n + \frac{\pi}{\pi}) + 1$

$y = -2 \sin(\pi n) + 1$

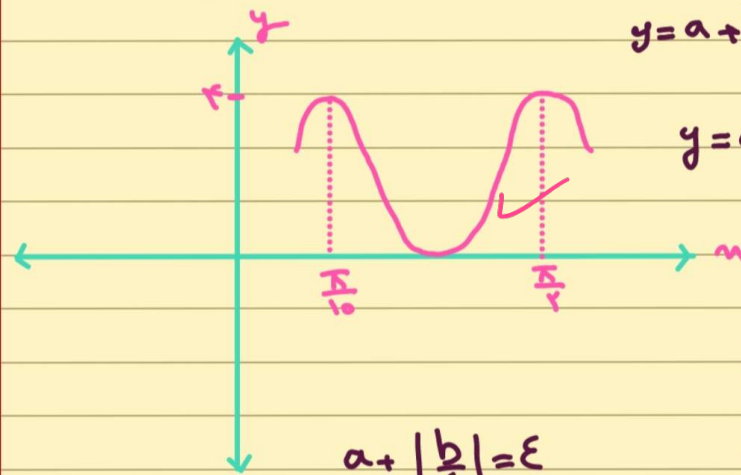
$T = \frac{2\pi}{\pi} = 2$



سارینا عابدینی



۷- $y = f(x)$ $\in [-1, +\infty)$ میں بائیں



۸- $y = a + b \sin(cx) \cos(cx) \cos(cx)$

$y = a + \frac{b}{f} \sin(fcx)$

$fc = \frac{2\pi}{\frac{2\pi}{\Delta}} = \Delta \rightarrow c = \frac{\Delta}{f}$

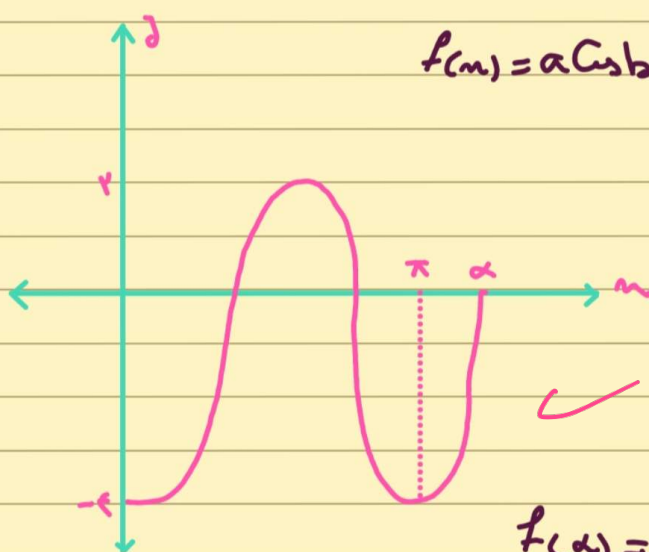
$|\frac{b}{f}| = \frac{f}{f} = 1 \Rightarrow b = \pm 1$

$a + |\frac{b}{f}| = \epsilon$

$a + 1 = \epsilon \rightarrow a = \epsilon - 1$

$a + |\frac{b}{f}| = 0$

$\frac{bc}{a} = \frac{1 \times \Delta}{f \times 1} = \Delta$



۹- $f(x) = a \cos bx + c$ $T = \pi$

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

$|a| = \frac{1+\epsilon}{2} = 1$

$\alpha \rightarrow a = -1, c = -1$

$f(x) = -1 \cos 2x - 1$

$f(\alpha) = -1 \cos 2\alpha - 1 = 0$

$\cos 2\alpha = -1$

$1 + \tan^2 \alpha = \frac{1}{\cos^2 \alpha} \rightarrow 1 + \tan^2 \alpha = 9$

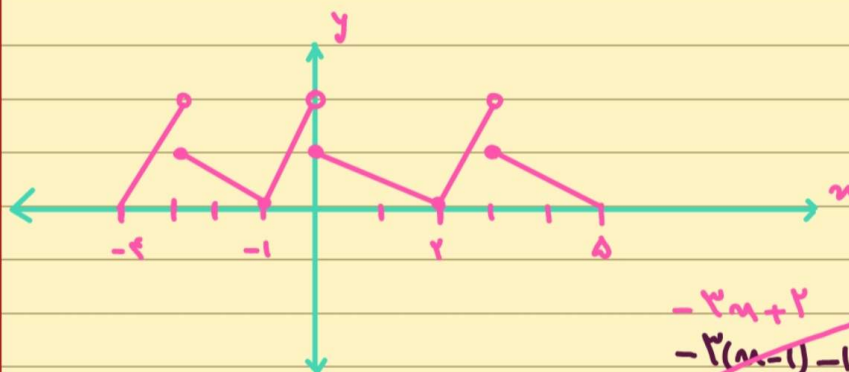
$|\tan \alpha| = \sqrt{8}$

سارینا عابدینی

۱۰-

۲

اعداد در سر بازه هر دوره
از تساعده $3n-1$
پیردی می کنند.



$$\cancel{-3n+2} \quad -2(n-1)-1 < -34/5 < 3n-1$$

$$n = -11$$

$$f(-34/5) = f(1/5)$$

$$y = \frac{1}{2}(1/5) + 1 = \frac{1}{10}$$

