

به نام خدا

یونس الملیلان

DATE / / SUBJECT:

$$OA=1, AB=2 \rightarrow \cos \pi - \alpha = \frac{OT}{1+2} = \frac{1}{1+2} \rightarrow \sin \alpha = \frac{1}{1+2} \rightarrow 2 = \frac{1}{\sin \alpha} - 1 = AB \quad (1)$$

$$\hat{O}_1 = \pi - \alpha$$

$$\frac{AB}{\frac{\sin \pi - \alpha}{\sin \alpha}} = \frac{4}{\frac{\sqrt{2}}{2}} \rightarrow AB = \frac{4}{\sqrt{2}} \times \sin \alpha \quad (2)$$

$$\frac{AC}{\sin \alpha} = \frac{2}{\frac{1}{2}} \rightarrow AC = 4 \sin \alpha$$

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

$$OB=1, OC=1, \hat{BOC} = 135^\circ \rightarrow BC = \sqrt{2} \quad (3)$$

$$B \left| -\frac{\sqrt{2}}{2} \right|, A \left| \frac{1}{\sqrt{2}} \right| \rightarrow AB = \sqrt{\left(-\frac{\sqrt{2}}{2}\right)^2 + \left(\frac{1}{\sqrt{2}}\right)^2} = \sqrt{\frac{2+1}{2}} = \sqrt{\frac{3}{2}}$$

$$\hat{ABC} = 90^\circ \rightarrow S_{ABC} = \frac{1}{2} \times \sqrt{2} \times \sqrt{\frac{3}{2}} \times \left(\frac{\sqrt{2} + \sqrt{2}}{2}\right) = \frac{4 + \sqrt{2}}{2} = \frac{4 + \sqrt{2}}{2} = \frac{4 + \sqrt{2}}{2}$$

$$AC^2 = 1 + 1 - 2 \times \frac{\sqrt{2}}{2} = 1 \rightarrow AC = \sqrt{2} \rightarrow \text{مساحت} = AC + BC + AB = 2 + \sqrt{2} + \sqrt{2}$$

$$S_{ABC} = \frac{1}{2} \times \log_2^{14} \times \log_2^{14} \times \frac{1}{2} = \frac{1}{2} \times \frac{\log_2^7}{\log_2^7} \times \frac{\log_2^7}{\log_2^7} = 2 \quad (4)$$

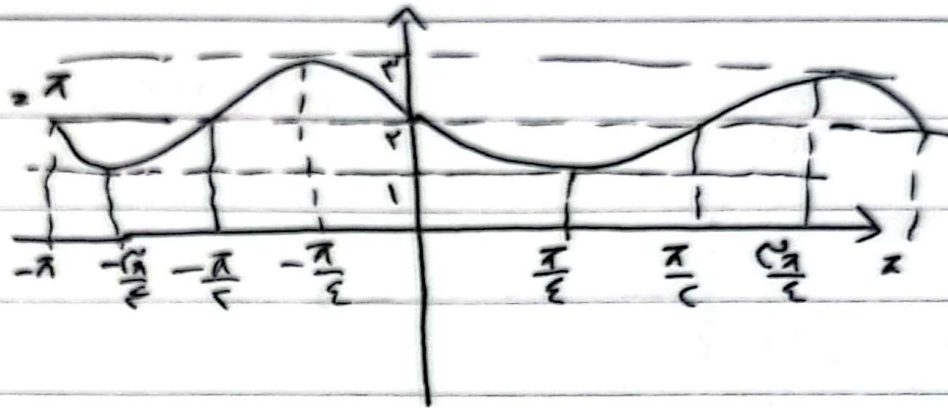
$$2 \cos^2 \alpha - \cos^2 \alpha - \sin^2 \alpha (-\cos^2 \alpha) = \cos^2 \alpha (\underbrace{2 \cos^2 \alpha - 1}_{\cos^2 \alpha}) + \sin^2 \alpha \cos^2 \alpha \quad (5)$$

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

بوابات

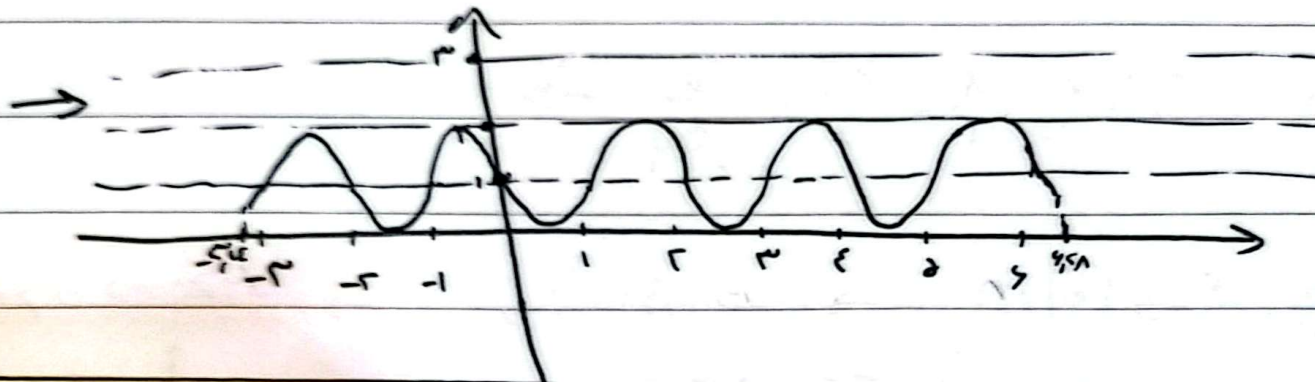
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الف)  $-\sin 2x + 5$  ;  $T = \frac{2\pi}{2} = \pi$

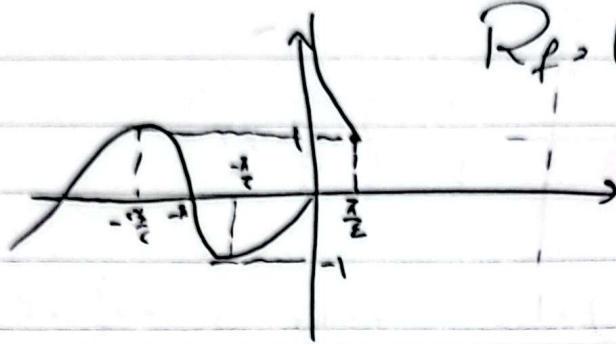


⑥

ب)  $2\cos(4x + \frac{1}{2}\pi) + 1 = 2\cos(4x + \frac{\pi}{2}) + 1 = -2\sin 4x + 1$  ;  $T = \frac{2\pi}{4} = \frac{\pi}{2}$







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

(v)

$$f(x) = a + b \times \frac{1}{c} \sin(\frac{x}{c}) ; T = \frac{\pi}{c} - \frac{\pi}{c} = \frac{2\pi}{c} = \frac{2\pi}{1} \rightarrow c = \frac{2\pi}{2\pi} = 1$$

(1)

$$\begin{aligned} f &= a + \frac{|b|}{c} \\ 0 &= a - \frac{|b|}{c} \end{aligned} \rightarrow \frac{|b|}{c} = 1 \rightarrow |b| = 1 \rightarrow b = 1$$

خوشه‌های مثبت و در همای مثبت

تقریبی عمل کرده  $\rightarrow a = 2$

$$\frac{b}{a} = \frac{1 \times \frac{2\pi}{2}}{2} = \frac{1}{2}$$

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

$\downarrow$   
 $\cos$  و  $\sin$

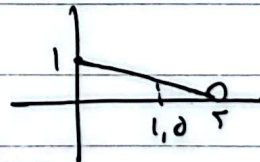
$|a| + c = 2 \rightarrow c = -1$   
 $-|a| + c = -2 \rightarrow |a| = 3 \rightarrow a = -3$

(2)

$$f(x) = -3 \cos 2x - 1, \text{ در } x = \frac{\pi}{4} \rightarrow -3 \cos 2 \times \frac{\pi}{4} - 1 = 0 \rightarrow \cos 2x = \frac{1}{3}$$

$$\rightarrow |\sin 2x| = \frac{\sqrt{8}}{3} \rightarrow |\tan 2x| = \frac{\sqrt{8}}{1}$$

$$T = 3 \rightarrow f(-\frac{\pi}{2}) = f(-\frac{\pi}{2} + 1 \times 3) = f(\frac{5\pi}{2}) \rightarrow$$



(1)

$$\cos \frac{2\pi}{3} = \frac{1}{2} \rightarrow \frac{1}{2} \rightarrow f(1,0) = f(-\frac{\pi}{2}, 0) = \frac{1}{2}$$