

۱۷,۲۵

نام و نام خانوادگی: ..... آیدین کبریا ..... شماره: ..... کلاس: ..... درس: ..... پاسخنامه تشریحی تکلیف شماره: ..... کلاس: ..... درس: ..... آیدین کبریا

$$\alpha + \alpha_1 = \frac{\pi}{2} \Rightarrow \cos \alpha_1 = \frac{OT}{OB} \Rightarrow \cos \alpha_1 = \frac{1}{1 + AB} \Rightarrow \sin \alpha = \frac{1}{1 + AB}$$

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

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$$S_{AOC} = \frac{1}{2} S_{ABC} \Rightarrow S_{AOC} = \frac{1}{2} \times AD \times AC \times \sin 60^\circ \Rightarrow S_{ABD} = \frac{1}{2} S_{ABC} \Rightarrow S_{ABD} = \frac{1}{2} \times AD \times AB \times \sin 60^\circ \Rightarrow S_{ABD} = \frac{1}{2} \times AD \times AC \times \frac{1}{2} \Rightarrow \frac{AB}{AC} = \sqrt{2}$$

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$$A \begin{vmatrix} \frac{1}{\sqrt{2}} \\ \frac{1}{\sqrt{2}} \\ \frac{1}{\sqrt{2}} \end{vmatrix} \quad C \begin{vmatrix} 1 \\ 1 \\ 1 \end{vmatrix}$$

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

$$\begin{cases} AB = \sqrt{2} \\ AC = \sqrt{2} \\ BC = \sqrt{2} \\ P = \sqrt{2} + \sqrt{2} + \sqrt{2} \end{cases}$$

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$$C^2 = a^2 + b^2 - 2ab \cos C \Rightarrow a = \log^4 e = \varepsilon \log^4 e = \varepsilon u \quad C = \log^4 u : \varepsilon \log^4 u = \frac{u}{\varepsilon} \quad \log^4 e = u$$

$$b^2 = a^2 + c^2 - 2ac \cos B \Rightarrow \varepsilon c^2 - a^2 = \varepsilon u^2 - 14u^2 = \varepsilon (9 - \varepsilon u^2)$$

$$b = \frac{(a^2 + \sqrt{\varepsilon c^2 - a^2})}{2} \quad \sqrt{\varepsilon c^2 - a^2} = \frac{\sqrt{9 - \varepsilon u^2}}{u} \quad S = \frac{\varepsilon u (\varepsilon u \sqrt{9 - \varepsilon u^2} + \sqrt{9 - \varepsilon u^2})}{2}$$

$$S = \frac{a(a^2 + \sqrt{\varepsilon c^2 - a^2})}{2} \Rightarrow S = \frac{u \sqrt{9 - \varepsilon u^2} + \sqrt{9 - \varepsilon u^2}}{2}$$

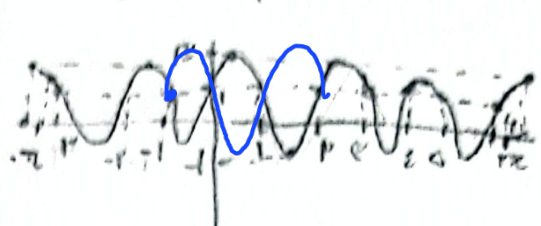
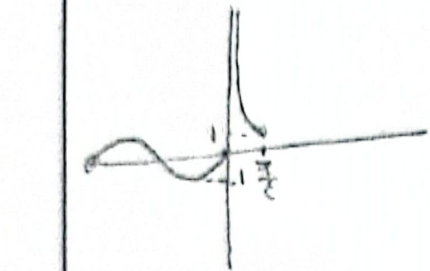
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$$x \cdot \cos \alpha = \dots \Rightarrow x = \cos \alpha$$

$$2 \cos^2 \alpha - \cos^4 \alpha - (\sin^2 \alpha)(2 \sin^2 \alpha - 1) = 2(\cos^2 \alpha - \sin^2 \alpha) - (\cos^4 \alpha - \sin^4 \alpha) = 1$$

$$= 2(\cos^2 \alpha - \sin^2 \alpha)(\cos^2 \alpha + \sin^2 \alpha) - (\cos^4 \alpha - \sin^4 \alpha) = \cos 2\alpha = 1 \Rightarrow \sin 2\alpha = 0$$

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| $-V \sin \pi x \cos \pi x + V$ $- \sin \pi x + 1$ $\frac{V \pi}{V} = \pi$                                                                                   | $V \cos \pi x + \frac{\pi}{V} + 1$ $-V \sin \pi x + 1$ $\frac{V \pi}{\pi} = V$ <div style="border: 1px solid red; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 1, 1, 0 </div>                                                                                                                                                                          | 6  |
|  $\Rightarrow R_f = [-1, +\infty)$                                                                                                                          | <div style="border: 1px solid red; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 2 </div>                                                                                                                                                                                                                                                                                                                                                 | 7  |
| $a + b \frac{\sin(\pi x) \cos(\pi x)}{\frac{1}{V} \sin(\pi x) \cos(\pi x)} \cos(\pi x)$ $b = -1$ $a + \frac{1}{\pi} \sin(\pi x) = a - V \sin(\pi x)$                                                                                        | <p>چون تابع در نقطه صفر نردی است <math>b \neq 0 \rightarrow b = -1</math></p> <p>Max: <math>\pi \Rightarrow a = \pi \Rightarrow \pi - V \sin(\pi x)</math></p> <p><math>T = \frac{\pi}{V} \cdot \frac{\pi}{1} = \frac{\pi \pi}{1} = \frac{\pi^2}{1} \Rightarrow \frac{V \pi}{\pi} = \frac{V \pi}{1} \Rightarrow C = \frac{1}{2} \Rightarrow \frac{-1 \times \frac{1}{2}}{\pi} = -\omega</math></p> <div style="border: 1px solid blue; padding: 5px; display: inline-block;"> <math>\frac{bc}{a} = \omega</math> </div> | 8  |
| $T = \frac{\pi \pi}{b} \Rightarrow b = \pi$ $\Rightarrow a = -\pi$                                                                                                                                                                          | <p>چون تابع در نقطه آغاز صفر است پس <math>a = 0</math></p> $f(x) = -\pi \cos \pi x + 1 \rightarrow -\pi \cos \pi x + 1 = 0$ $\Rightarrow \cos \pi x = \frac{1}{\pi}$ $\Rightarrow 1 + \tan^2 \pi x = \frac{1}{\cos^2 \pi x} \Rightarrow 1 + \tan^2 \pi x = \pi \Rightarrow  \tan \pi x  = \sqrt{\pi}$                                                                                                                                                                                                                   | 9  |
| $T: \pi \Rightarrow f(x) = f(x + \pi k) \Rightarrow f(-\pi \varepsilon_1 \pi) = f(1, 0 - \pi)$ $= f(1, 0 - \pi \varepsilon_1) = f(1, 1)$ $f(x) = \frac{1}{\pi} x + 1 \Rightarrow f(1, 0) = -\pi \cdot 0 + 1 = \left[ \frac{1}{\pi} \right]$ | <div style="border: 1px solid red; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 2 </div>                                                                                                                                                                                                                                                                                                                                                 | 10 |