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کلاس 13

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تاریخ: 11

سوال 1: $\tan \frac{11\pi}{4} + \sin \frac{10\pi}{4} \cos \frac{13\pi}{4} \rightarrow \tan 1\pi + \sin 2\pi \times \cos 3\pi = -1$ ✓
 ب: $\tan \frac{14\pi}{4} \sin \frac{11\pi}{4} + \cos \frac{10\pi}{4} \rightarrow \tan 1\pi \times \sin 2\pi + \cos 2\pi = 0$ صفر ✓

سوال 2: $\frac{\cos \alpha}{\sin \alpha} = \frac{1}{2} \Rightarrow \cos \alpha = \frac{1}{2} \sin \alpha \Rightarrow \frac{\cos \alpha - \sin \alpha}{\cos \alpha + \sin \alpha} = \frac{1 \cos \alpha - \sin \alpha}{\frac{1}{2} \sin \alpha + \sin \alpha} = \frac{11 \sin \alpha}{\frac{3}{2} \sin \alpha} = \frac{11}{3}$ ✓

سوال 3: $\sin \alpha = \frac{1}{2} \Rightarrow \sin^2 \alpha + \cos^2 \alpha = 1 \Rightarrow \cos^2 \alpha = 1 - \frac{1}{4} = \frac{3}{4} \Rightarrow \cos \alpha = \pm \frac{\sqrt{3}}{2}$
 چون در ربع دوم $\cos$ منفی است
 $\Rightarrow \cos \alpha = -\frac{\sqrt{3}}{2}$ ✓
 $\cos \alpha = -\frac{\sqrt{3}}{2} \Rightarrow \alpha = \frac{5\pi}{6}$ ✓

سوال 4: $\cos(\frac{11\pi}{4} + \alpha) = \cos \frac{11\pi}{4} \cos \alpha - \sin \frac{11\pi}{4} \sin \alpha =$
 $= -\frac{\sqrt{2}}{2} \times -\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = \frac{1}{2} - \frac{1}{2} = 0$ ✓

ب: $\sin(\frac{13\pi}{4} + \alpha) = \sin \frac{13\pi}{4} \cos \alpha + \cos \frac{13\pi}{4} \sin \alpha =$
 $= -\frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} + \frac{1}{2} \times (-\frac{\sqrt{2}}{2}) = \frac{-\sqrt{2} - \sqrt{2}}{2} = -\frac{2\sqrt{2}}{2} = -\sqrt{2}$ ✓

سوال 5: $\sin^2 \alpha + \cos^2 \alpha = \frac{5}{16} \Rightarrow \sin^2 \alpha + \cos^2 \alpha = 1$
 $\Rightarrow \sin^2 \alpha = \frac{1}{16} \Rightarrow \cos^2 \alpha = \frac{15}{16} \Rightarrow \tan^2 \alpha = \frac{1}{15} \Rightarrow \tan \alpha = \frac{1}{\sqrt{15}}$ ✓

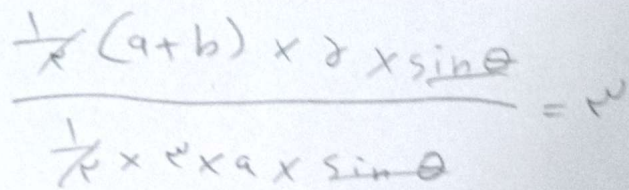
سوال 6: $S = \frac{1}{2} \times 9 \times \sqrt{13} \times \sin \alpha = 6\sqrt{13}$
 $\Rightarrow \sin \alpha = \frac{6\sqrt{13}}{\frac{9\sqrt{13}}{2}} = \frac{12}{9} = \frac{4}{3}$ ✓
 $\Rightarrow \alpha = \frac{\pi}{2}$ ✓

سوال 7: $S = \frac{1}{2} \times 12 \times 12 \times \sin \alpha = 84$
 $12 \times 12 \times \sin \alpha = 168 \Rightarrow \sin \alpha = 1 \Rightarrow \alpha = \frac{\pi}{2}$ ✓
 $8\sqrt{11} + 6\sqrt{11} = 14\sqrt{11} = 14 \times \sqrt{11}$ ✓



②

$$\Rightarrow A = \omega_0^0, \quad \tan \omega_0^0 = \frac{1}{\frac{1}{\sqrt{2}}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$



$$\partial b = \zeta_a \rightarrow \frac{a}{b} = \frac{\partial}{r} = 1, \mu \partial \checkmark$$

$\Rightarrow \sin = \text{متقی}$
 $\cos = \text{متقی} \Rightarrow$ صحیح