

17, 17, 17

تاریخ: ... تکلیف سری 18 دهم رشته A

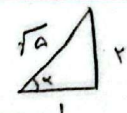
الف) $\tan \frac{11\pi}{4} + \sin \frac{13\pi}{4} \cos \frac{13\pi}{4}$
 $\tan \left(2\pi + \frac{3\pi}{4} \right) + \sin \left(2\pi + \frac{3\pi}{4} \right) \cos \left(2\pi + \frac{3\pi}{4} \right)$
 $-1 + \left(\frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} \right) = \frac{1}{2} - 1 = \boxed{-\frac{1}{2}}$

ب) $\tan \frac{11\pi}{4} \sin \frac{11\pi}{4} + \cos \frac{11\pi}{4}$
 $\tan \left(2\pi + \frac{3\pi}{4} \right) \sin \left(2\pi + \frac{3\pi}{4} \right) + \cos \left(2\pi + \frac{3\pi}{4} \right)$
 $\left(\frac{\sqrt{2}}{2} \right) \times \left(\frac{\sqrt{2}}{2} \right) + \frac{1}{2} = \frac{1}{2} + \frac{1}{2} = \boxed{1}$

سوال 1

$\cot x = f \rightarrow \frac{f \cos x - \sin x}{\cos x + \sin x} = \frac{f \cot x - 1}{f + 1} = \frac{12 - 1}{12 + 1} = \boxed{\frac{11}{13}}$

سوال 2

$\sin \alpha = r \cos \alpha \rightarrow \cos \alpha = ?$
 $\frac{\sin \alpha}{\cos \alpha} = r \Rightarrow \tan \alpha = r$

 $\Rightarrow \cos \alpha = \frac{1}{\sqrt{a}} = \frac{\sqrt{a}}{a}$

سوال 3

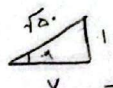
الف) $\sin \alpha = \frac{\sqrt{2}}{1} \rightarrow \cos \left(\frac{11\pi}{4} + \alpha \right)$
 $2\pi + \frac{3\pi}{2} = \frac{7\pi}{2}$


 $\cos \alpha = -\frac{\sqrt{2}}{1} = -\frac{\sqrt{2}}{1}$

سوال 4

$\cos \left(-\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} \right) = \frac{-\sqrt{2}}{1} \cdot \frac{\sqrt{2}}{1} = \frac{-1 \times \sqrt{2}}{1} = \boxed{-\frac{\sqrt{2}}{1}}$

ب) $\tan \alpha = \frac{1}{\sqrt{2}} \rightarrow \sin \left(\frac{13\pi}{4} + \alpha \right)$
 $2\pi + \frac{5\pi}{2} = \frac{9\pi}{2}$


 $\sin \alpha = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{2}$

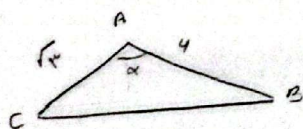
$\sin \left(\frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2} \right) = \frac{\sqrt{2}}{1} + \frac{\sqrt{2}}{1} = \frac{2\sqrt{2}}{1} = \boxed{\frac{2\sqrt{2}}{1}}$

$r \sin^2 x + \cos^2 x = \frac{f}{4} \rightarrow \tan^2 x \Rightarrow \frac{r}{4} + \cos^2 x = \frac{f}{4} \Rightarrow \cos^2 x = \frac{f}{4}$

$\sin^2 x + \sin^2 x + \cos^2 x = \frac{f}{4} \Rightarrow \sin^2 x + 1 = \frac{f}{4} \Rightarrow \sin^2 x = \frac{f}{4} - 1$

$\tan^2 x = \frac{\sin^2 x}{\cos^2 x} = \frac{\frac{f}{4} - 1}{\frac{f}{4}} = \boxed{\frac{f-4}{f}}$

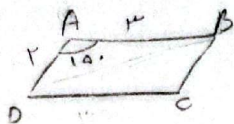
سوال 5



$S_{\Delta} = \frac{1}{2} (AB \cdot AC) \cdot \sin \alpha \Rightarrow \frac{1}{2} \times 4r \times \sin \alpha = \frac{9}{2}$

$\sin \alpha = \frac{9}{4r} = \frac{9}{4 \times \frac{9}{4}} = \frac{9}{9} = 1 \Rightarrow \alpha = 90^\circ$

سوال 6



$$S_{\square} = AB \cdot AD \cdot \sin \alpha \Rightarrow AB \cdot AD = 40 \Rightarrow \frac{1}{4} AD = 10 \Rightarrow AD = 40$$

$$r \times r \times \frac{1}{4} = 10 \Rightarrow 4r^2 = 10 \Rightarrow r = \frac{\sqrt{10}}{2}$$

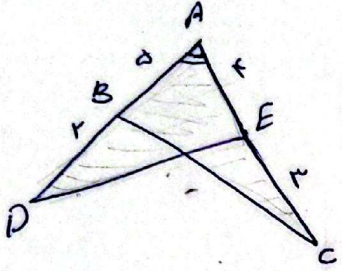
$$\frac{AB}{AD} = \frac{1}{4} \Rightarrow 4AB = AD \Rightarrow AB = \frac{1}{4} AD$$

$$AB = \frac{1}{4} \times 40 = 10$$

$$P_{\square} = 2(10 + 4) = 28$$

$$P = (10 + 4) \times 2 = 28$$

سوال ۱۱



$$S_{\triangle ABC} - S_{\triangle ADE} = 12 \Rightarrow \tan A = ? \Rightarrow \tan A = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$S_{\triangle ABC} = \frac{1}{2} AC \cdot AB \cdot \sin A = 16$$

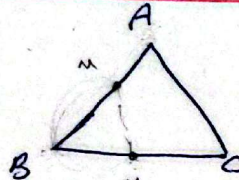
$$S_{\triangle ADE} = \frac{1}{2} AE \cdot AD \cdot \sin A = 4$$

$$\frac{1}{2} \sin A = 12 \Rightarrow \sin A = \frac{12}{1} = 12$$

$$\sin A = \frac{1}{\sqrt{3}}$$



سوال ۹



$$S_{\triangle ABC} = 16, S_{\triangle AMN} = 4 \Rightarrow \frac{BM}{AM} = ? \Rightarrow \frac{4}{16} = \frac{1}{4}$$

$$S_{\triangle ABC} = \frac{1}{2} AB \cdot BC \cdot \sin B = 16$$

$$S_{\triangle AMN} = \frac{1}{2} AN \cdot MN \cdot \sin B = 4$$

$$\frac{1}{4} BC = BN + CN \Rightarrow BN + \frac{1}{4} BN = \frac{5}{4} BN = BC$$

$$\frac{AB}{BM} = \frac{4}{16} \Rightarrow \frac{AB}{BM} = \frac{1}{4}$$

$$\frac{AB}{BM} = \frac{1}{4} \Rightarrow \frac{AB}{AM} = \frac{1}{4}$$

$$\frac{AB}{AM} = \frac{1}{4} \Rightarrow \frac{BM}{AM} = \frac{1}{4}$$

$$\frac{|\sin \alpha|}{\cos \alpha} = -\frac{1}{\cot \alpha} \Rightarrow \frac{|\sin \alpha|}{\cos \alpha} = -\frac{\sin \alpha}{\cos \alpha} \Rightarrow |\sin \alpha| = -\sin \alpha \Rightarrow \sin \alpha < 0$$

$$\frac{1}{\sqrt{\cos \alpha}} = \tan \alpha = \frac{1 + \sin \alpha}{|\cos \alpha|} \Rightarrow \frac{1}{\sqrt{\cos \alpha}} = \frac{1 + \sin \alpha}{\cos \alpha} \Rightarrow \frac{1}{\cos \alpha} = \frac{1 + \sin \alpha}{\cos \alpha} \Rightarrow 1 = 1 + \sin \alpha \Rightarrow \sin \alpha = 0$$

α → درجه ۰

$$\frac{-\sin \alpha}{|\cos \alpha|} = \frac{\sin \alpha}{\cos \alpha} \Rightarrow -\cos \alpha = |\cos \alpha|$$

$$\cos \alpha < 0$$

$$\cos \alpha = -1$$

سوال ۱۰