نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۱۸ کلاس ..... B .....

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الف) $\tan\frac{3\pi}{4} + \sin\frac{3\pi}{4}\cos\frac{\pi}{4} = -1 + \frac{1}{2} = -\frac{1}{2}$

ب) $\tan\frac{4\pi}{3}\sin\frac{2\pi}{3} + \cos\frac{\pi}{3} = \frac{\sqrt{3}}{2} + \frac{\sqrt{3}}{2} - \frac{1}{2} = \frac{\sqrt{3}-1}{2}$

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$\cot x = \frac{\cos x}{\sin x} = 4 \longrightarrow \cos^2 x + \sin^2 x = 1 \longrightarrow 17\sin^2 x = 1 \longrightarrow \sin x = \frac{1}{\sqrt{17}}$

$(\cos x = 4\sin x) \qquad \cos x = \frac{4}{\sqrt{17}}$

$\frac{3\cos x - \sin x}{\cos x + \sin x} = \frac{11\sin x}{5\sin x} = \frac{11}{5}$

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$\sin\alpha = 2\cos\alpha \qquad \sin^2\alpha + \cos^2\alpha = 1 \qquad 4\cos^2\alpha + \cos^2\alpha = 1$

$5\cos^2\alpha = 1 \qquad \cos\alpha = \frac{1}{\sqrt{5}} \qquad \sin\alpha = \frac{2}{\sqrt{5}}$

دو ربع سوم ←

$\cos\alpha = -\frac{1}{\sqrt{5}}$

$\sin\alpha = -\frac{2}{\sqrt{5}}$

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الف) $\cos\left(\frac{11\pi}{4} + \alpha\right) = \cos\frac{3\pi}{4}\cos\alpha - \sin\frac{3\pi}{4}\sin\alpha = \frac{14}{20} - \frac{2}{20} = 0/4$

$\left(\frac{11\pi}{4} = \frac{3\pi}{4}\right)$

$\cos\frac{3\pi}{4} = -\frac{\sqrt{2}}{2} \qquad \cos\alpha = -\frac{\sqrt{98}}{10} = -\frac{7\sqrt{2}}{10} \qquad \sin\frac{3\pi}{4} = \frac{\sqrt{2}}{2} \qquad \sin\alpha = \frac{\sqrt{2}}{10}$

ب) $\sin\frac{\pi}{4}\cos\alpha + \sin\alpha\cos\frac{\pi}{4} = \frac{\sqrt{2}}{2}\cdot\frac{7}{5\sqrt{2}} + \frac{1}{5\sqrt{2}}\cdot\frac{\sqrt{2}}{2} = \frac{7}{10} + \frac{1}{10} = 0/8$

$\sin\frac{\pi}{4} = \frac{\sqrt{2}}{2} \qquad \cos\alpha = \frac{7}{5\sqrt{2}} \qquad \sin\alpha = \frac{1}{5\sqrt{2}} \qquad \cos\frac{\pi}{4} = \frac{\sqrt{2}}{2}$

if $\sin\alpha = \frac{\sqrt{2}}{10} \longrightarrow \cos\alpha = -\frac{\sqrt{98}}{10}$ ($\sin^2\alpha + \cos^2\alpha = 1$)

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$2\sin^2 x + \cos^2 x = \frac{4}{3} \Longrightarrow \sin^2 x = \frac{1}{3} \longrightarrow \sin x = \pm\frac{\sqrt{3}}{3}$

$\cos x = \pm\frac{\sqrt{6}}{3}$

$\left(\tan^2 x = \frac{\left(\frac{\sqrt{3}}{3}\right)^2}{\left(\frac{\sqrt{6}}{3}\right)^2} = \frac{\frac{3}{9}}{\frac{6}{9}} = \frac{1}{2}\right)$

$S_\Delta = \frac{1}{2} ab \sin\alpha$

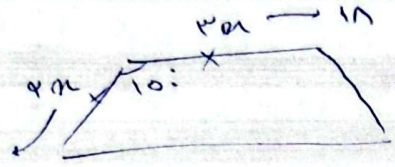
$\max \alpha = \frac{2\pi}{3}$

$\min \alpha = \frac{\pi}{3}$

$\sqrt{3} \times \frac{3}{4} \times \frac{1}{2} \cdot \sin\alpha = 4\sqrt{5}$

$\sin\alpha = \frac{4\sqrt{5}}{\frac{10\sqrt{3}}{1}} = \frac{4\sqrt{5}}{10\sqrt{3}} = \left(\frac{\sqrt{3}}{2}\right)$

$\frac{\frac{2\pi}{3}}{\frac{\pi}{3}} = 2$ ٦



$\sin 10°$

$\frac{1}{2} \times 4x \times 3x \times \frac{1}{2} = \frac{3}{4} x^2 = 54$

$x^2 = \frac{108}{3}$ $x = 6\sqrt{3}$

$3\sqrt{3}$

$(3\sqrt{3} \times 2 + 3\sqrt{3} \times 2) \frac{1}{2} = 30\sqrt{3}$ ٧

$\frac{1}{2} \times 6 \times \frac{1}{2} \times \sin\hat{A}$

$\frac{3}{2} \sin\hat{A} - \frac{4}{3} \sin\hat{A} = 17$

$\frac{9}{6} \sin\hat{A} - \frac{8}{6} \sin\hat{A} = 17$

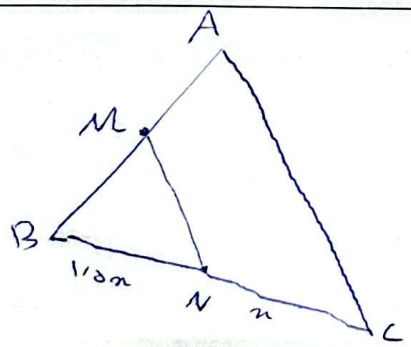
$\frac{1}{6} \sin\hat{A} = 17$

$\sin\hat{A} = 102$

$\tan\hat{A} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} = \frac{3}{\sqrt{3}}$ ٨

$\cos\alpha = \frac{\sqrt{3}}{2}$

$\sin\hat{A} = \frac{17\sqrt{3}}{24} = \frac{1}{2}$



$\left(\frac{S_{ABC}}{S_{BMN}} = 3\right)$

$\frac{\frac{1}{2} \times 15x \times AB}{\frac{1}{2} \times x \times BM} = 2$ $\frac{AB}{BM} = 11.8 = \frac{AM + BM}{BM}$ ٩

$\frac{AM}{BM} = 0.18$

$\frac{1}{\sqrt{\cos^2\alpha}} - \tan\alpha = \frac{1 + \sin\alpha}{|\cos\alpha|}$

$\frac{1}{|\cos\alpha|} - \frac{\sin\alpha}{\cos\alpha} = \frac{1}{|\cos\alpha|} + \frac{\sin\alpha}{\cos\alpha}$

$\cos\alpha$ ← نفی

$\frac{|\sin\alpha|}{\cos\alpha} = -\frac{\sin\alpha}{\cos\alpha}$ ← $\sin\alpha$ ← نفی ١٠

ناحیه ۳