

تکلیف ۱۸

الانادفوا ۱۰ دهم جمادى

$$\tan \frac{11\pi}{6} + \sin \frac{10\pi}{6} \times \cos \frac{13\pi}{6} = -1 \quad \left(-\frac{\sqrt{3}}{2} \times -\frac{\sqrt{2}}{2} \right) \rightarrow -1 + \frac{\sqrt{6}}{2} = \frac{-2 + \sqrt{6}}{2} = -\frac{1}{2}$$

$$\frac{11\pi}{6} = 11 \times \frac{\pi}{6} = 11 \times 60^\circ = 660^\circ \rightarrow 660 - 360 = 300^\circ \rightarrow \tan 300 = -1$$

$$\sin \frac{10\pi}{6} = 10 \times \frac{\pi}{6} = 600^\circ \rightarrow 600 - 360 = 240^\circ \rightarrow \sin 240 = -\frac{\sqrt{3}}{2}$$

$$\cos \frac{13\pi}{6} = 13 \times \frac{\pi}{6} = 910^\circ \rightarrow 910 - 360 = 550^\circ \rightarrow \cos 550 = -\frac{\sqrt{2}}{2}$$

$$\tan \frac{14\pi}{6} \sin \frac{11\pi}{6} + \cos \frac{10\pi}{6} = \frac{\sqrt{3}}{2} \times -\frac{\sqrt{3}}{2} - \frac{1}{2} = -\frac{3}{2} - \frac{1}{2} = -2$$

$$14 \times 60 = 840 \rightarrow 840 - 360 = 480^\circ \rightarrow \tan 480 = \frac{\sqrt{3}}{2}$$

$$11 \times 60 = 660 \rightarrow 660 - 360 = 300^\circ \rightarrow \sin 300 = -\frac{\sqrt{3}}{2}$$

$$10 \times 60 = 600 \rightarrow 600 - 360 = 240^\circ \rightarrow \cos 240 = -\frac{1}{2}$$

$$\frac{\cos x}{\sin x} = \frac{1}{2} \rightarrow \cos x = \frac{1}{2} \sin x \rightarrow \frac{3 \times \frac{1}{2} \sin x - \sin x}{\frac{1}{2} \sin x + \sin x} = \frac{1}{2}$$

$$\sin^2 x + \cos^2 x = 1 \rightarrow \frac{1}{4} \cos^2 x + \cos^2 x = 1 \rightarrow \frac{5}{4} \cos^2 x = 1 \rightarrow \cos^2 x = \frac{4}{5} \rightarrow \cos x = \pm \frac{2}{\sqrt{5}}$$

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

منفى مور / دقبول است (ربح دوم)

$$\frac{11\pi}{6} = 4\pi + \frac{7\pi}{6} \rightarrow \sin \frac{11\pi}{6} = -\frac{\sqrt{3}}{2}, \cos \frac{11\pi}{6} = \frac{1}{2}$$

$$\cos(a+b) = \cos a \cos b - \sin a \sin b \rightarrow \left(-\frac{\sqrt{3}}{2} \times -\frac{\sqrt{2}}{2} \right) - \left(\frac{1}{2} \times \frac{\sqrt{2}}{2} \right) = \frac{\sqrt{6}}{4} - \frac{\sqrt{2}}{4} = \frac{\sqrt{6}-\sqrt{2}}{4}$$

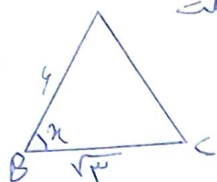
$$1 - \tan^2 x = \frac{1}{\cos^2 x} \rightarrow 1 + \frac{1}{9} = \frac{10}{9} = \frac{\sqrt{10}}{\sqrt{9}} = \frac{1}{\cos} \rightarrow \cos = \frac{\sqrt{9}}{\sqrt{10}} \rightarrow \sin^2 = 1 - \frac{9}{10} = \frac{1}{10} \rightarrow \sin = \frac{1}{\sqrt{10}}$$

$$\frac{13\pi}{6} = 2\pi + \frac{5\pi}{6} \rightarrow \sin = -\frac{\sqrt{3}}{2}, \cos = -\frac{1}{2}$$

$$-\frac{\sqrt{3}}{2} \times \frac{1}{\sqrt{10}} - \left(-\frac{1}{2} \times \frac{\sqrt{3}}{\sqrt{10}} \right) = -\frac{\sqrt{3}}{2\sqrt{10}} + \frac{\sqrt{3}}{2\sqrt{10}} = 0$$

$$\begin{cases} \sqrt{p} \sin^p x + \cos^p x = \frac{p}{p} \\ (\sin^p x + \cos^p x = 1) \times -1 \end{cases} \rightarrow \sin^p x = \frac{1}{p} \rightarrow \frac{1}{p} + \cos^p x = 1 \rightarrow \cos^p x = \frac{p-1}{p} \rightarrow \cos x = \pm \frac{\sqrt{p-1}}{\sqrt{p}}$$

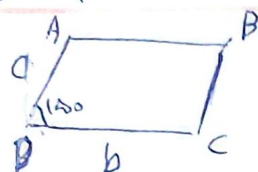
$$\sin^p x = \frac{1}{p} \quad \sin x = \pm \frac{\sqrt{p}}{p} \quad \tan^p x = \left(\frac{\frac{1}{\sqrt{p}}}{\frac{\sqrt{p-1}}{\sqrt{p}}} \right)^p = \frac{p}{p-1} = \frac{1}{p}$$



$$\sin x = \frac{1}{\sqrt{p}} \Rightarrow AB \times BC \times \sin x \rightarrow \frac{\sqrt{p} \times \sqrt{p} \times \sin x}{p} = \frac{1}{p} \rightarrow \frac{1}{\sqrt{p}} = \frac{1}{\sqrt{p}} = \frac{1}{\sqrt{p}}$$

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$$S = a \times b \times \sin x = \Delta F \rightarrow ab = 1 \Rightarrow b = \frac{1}{a}$$

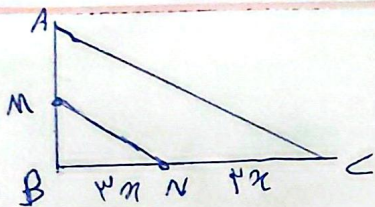
$$\frac{a}{b} = \frac{p}{p} \rightarrow b = \frac{p}{a} \rightarrow b = \frac{p}{a} \rightarrow b = \frac{p}{a}$$

$$b = \frac{p}{a} \Rightarrow \frac{p}{a} \times a \times \sin x = \frac{p}{p} \times a \times \sin x = 1 \Rightarrow a = \frac{1}{\sin x} \Rightarrow a = \frac{1}{\sin x}$$

$$S_{ABC} - S_{APE} = 1/\sqrt{p} \Rightarrow \frac{1}{2} \times \Delta x \times \frac{1}{p} \times \sin x - \frac{1}{2} \times \Delta x \times \frac{1}{p} \times \sin x = 1/\sqrt{p}$$

$$\frac{p}{p} \times \sin x - 1/\sqrt{p} \times \sin x = 1/\sqrt{p} \rightarrow \frac{p-1}{p} \times \sin x = 1/\sqrt{p} \rightarrow \sin x = \frac{1}{\sqrt{p}} \Rightarrow x = \frac{1}{\sqrt{p}}$$

$$\tan x = \frac{1}{\sqrt{p}} = \frac{\sqrt{p}}{p}$$



$$\frac{S_{BMN}}{S_{ABC}} \times \frac{BM \times BN}{BA \times BC} = \frac{BM}{BA} \times \frac{BN}{BC} = \frac{1}{p}$$

$$\rightarrow \frac{BM}{BA} = \frac{1}{p} \rightarrow \frac{BM}{AM} = \frac{1}{p-1} = 1/\sqrt{p}$$

ناتمام

$$\frac{1}{\sqrt{\cos x}} - \tan x = \frac{1 + \sin x}{|\cos x|}$$

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

$$\rightarrow \frac{\sin x}{\cos x} = \frac{1 - 1 - \sin x}{|\cos x|} = \frac{-\sin x}{|\cos x|}$$

$$\cos 2x \leftarrow \frac{1}{\cos x} \leftarrow \frac{1}{\cos x} = \frac{1}{\cos x} = \frac{1}{\cos x} \rightarrow \sin x \text{ or } \cos x$$