

نام و نام خانوادگی: آدرس: شماره: ۱۱ کلاس: ریاضی A

الف) $\tan \frac{11\pi}{4} + \sin \frac{10\pi}{4} \cos \frac{13\pi}{4} = -1 + \frac{1}{4} = -\frac{3}{4}$

ب) $\tan \frac{11\pi}{4} + \sin \frac{11\pi}{4} + \cos \frac{10\pi}{4} = \frac{1}{4} - \frac{1}{4} = 0$

$\frac{3\cos\alpha - \sin\alpha}{\sin\alpha + \cos\alpha} = \frac{11\sin\alpha - \sin\alpha}{\sin\alpha + 11\sin\alpha} = \frac{10\sin\alpha}{12\sin\alpha} = \frac{5}{6}$

$\cos\alpha = 1 \Rightarrow \cos\alpha = 11\sin\alpha$

$\sin\alpha = 11\cos\alpha$

$\cos\alpha = -\frac{\sqrt{6}}{6}$

$\Rightarrow \sin^2\alpha + \cos^2\alpha = \cos^2\alpha + 11^2\cos^2\alpha = 1 \Rightarrow \cos^2\alpha = \frac{1}{122}$

$\sin\alpha = \frac{\sqrt{11}}{10}$

$\Rightarrow \cos\alpha = \frac{\sqrt{91}}{10}$

الف) $\cos(\alpha + \beta) = \cos\alpha \cos\beta - \sin\alpha \sin\beta = -\frac{\sqrt{91}}{10} \times \frac{\sqrt{11}}{4} - \frac{\sqrt{11}}{10} \times \frac{\sqrt{11}}{4} = -\frac{\sqrt{91}}{40} - \frac{11}{40} = -\frac{\sqrt{91} + 11}{40}$

$\tan\alpha = \frac{1}{4}$

$\Rightarrow \sin\alpha = \frac{1}{\sqrt{17}}$

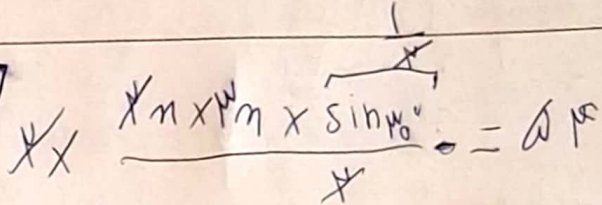
$\Rightarrow \cos\alpha = \frac{4}{\sqrt{17}}$

ب) $\sin(\alpha + \beta) = \sin\alpha \cos\beta + \sin\beta \cos\alpha = \frac{1}{\sqrt{17}} \times \frac{\sqrt{11}}{4} + \frac{\sqrt{11}}{4} \times \frac{4}{\sqrt{17}} = \frac{\sqrt{11}}{4\sqrt{17}} + \frac{4\sqrt{11}}{4\sqrt{17}} = \frac{5\sqrt{11}}{4\sqrt{17}}$

$11\sin^2\alpha + \cos^2\alpha = \frac{11}{17} \Rightarrow \sin^2\alpha + \sin^2\alpha + \cos^2\alpha = \frac{11}{17} \Rightarrow \sin^2\alpha = \frac{1}{17} \Rightarrow \cos^2\alpha = 1 - \frac{1}{17} = \frac{16}{17}$

$\Rightarrow \tan\alpha = \frac{1}{4}$

$$\sin \alpha = \frac{\frac{1\sqrt{10}}{4}}{\sqrt{10}} = \frac{1}{4} \Rightarrow \begin{cases} \alpha = 4^\circ \\ \alpha = 14^\circ \end{cases}$$

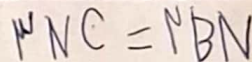


~~$\frac{1}{2} \sin \theta$~~

$$V \sin A = W \cos A$$

$$\Rightarrow \sin A = \frac{1}{4}$$

$$\Rightarrow \begin{cases} A = 70^\circ \text{ OK } \checkmark \\ A = 110^\circ \text{ OK } \text{EX} \end{cases}$$



$$\Rightarrow \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) = \frac{1}{2}$$

$$NB = 11 \angle NC$$

$$\Rightarrow \frac{BM}{AB} = \frac{a}{9}$$

$$NC = n$$

$$\frac{C_p \sin \theta \times \cancel{11.4 \text{ M}} \times \cancel{3 \text{ M}}}{\cancel{11.4 \text{ M}}} = \frac{\cancel{11.4 \text{ M}} \times AB \times \cancel{\sin \theta}}{\cancel{11.4 \text{ M}}}$$

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

$$= \frac{-\sin x}{\cos x}$$

$$\Rightarrow \cos \angle O = \frac{1 - \sin \alpha}{1 + \sin \alpha}$$

Cost

$$- \cos x$$

⇒ $\alpha \in \mathbb{R}$ سوم قرا $\alpha \in \mathbb{R}$