

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

ب) $\tan \frac{4\pi}{5} \sin \frac{\pi}{5} + \cos \frac{\pi}{5} = \frac{\sqrt{5}-1}{2} + \frac{\sqrt{5}}{2} = \frac{\sqrt{5}-1}{2}$
 $-\tan \frac{\pi}{4} - \sin \frac{\pi}{4} - \cos \frac{\pi}{4} = -\frac{\sqrt{2}}{2} - \frac{1}{\sqrt{2}} + (-\frac{1}{\sqrt{2}}) = 0$

$\cot \pi = \frac{\cos \pi}{\sin \pi} = \varepsilon \rightarrow \cos^2 \pi + \sin^2 \pi = 1 \rightarrow \sin^2 \pi = 1 \rightarrow \sin \pi = \frac{1}{\sqrt{1+\varepsilon^2}}$
 $\cos \pi = \frac{\varepsilon}{\sqrt{1+\varepsilon^2}}$
 $\frac{11 \cos \pi - \sin \pi}{\cos \pi + \sin \pi} = \frac{11 \sin \pi}{\Delta \sin \pi} = \frac{11}{\Delta}$ ✓

$\sin \alpha = \sqrt{2} \cos \alpha$ $\sin^2 \alpha + \cos^2 \alpha = 1$ $\varepsilon \cos^2 \alpha + \cos^2 \alpha = 1$
 $\sin \alpha = \sqrt{2} \cos \alpha$ $\Delta \cos^2 \alpha = 1$ $\cos \alpha = \frac{1}{\sqrt{\Delta}}$
 $\sin \alpha = \frac{\sqrt{2}}{\sqrt{\Delta}}$
 $\cos \alpha = -\frac{1}{\sqrt{5}}$ ✓ (دو ربع)
 $\sin \alpha = -\frac{\sqrt{2}}{\sqrt{5}}$ (2)

الف) $\cos \left(\frac{11\pi}{4} + \alpha \right) = \cos \frac{3\pi}{4} \cos \alpha - \sin \frac{3\pi}{4} \sin \alpha = \frac{1\varepsilon}{40} - \frac{\sqrt{2}}{20} = 0.14$ ✓
 $\left(\frac{11\pi}{4} = \frac{3\pi}{4} \right)$ (1, 1.5)
 $\sin^2 \alpha + \cos^2 \alpha = 1$
 $\sin \alpha = \frac{\sqrt{2}}{10}$ $\cos \alpha = -\frac{\sqrt{91}}{10}$
 $\frac{\sqrt{2}}{10} + \frac{1}{10} = 0.18$

$\sqrt{2} \sin^2 \pi + \cos^2 \pi = \frac{\varepsilon}{\mu} \Rightarrow \sin^2 \pi = \frac{1}{\mu} \rightarrow \sin \pi = \pm \frac{\sqrt{\mu}}{\mu}$
 $\cos \pi = \frac{\sqrt{1+\mu}}{\mu}$
 $\left(\tan^2 \pi = \frac{\left(\frac{\sqrt{\mu}}{\mu} \right)^2}{\left(\frac{\sqrt{1+\mu}}{\mu} \right)^2} = \frac{\mu}{1+\mu} = \frac{1}{2} \right)$ ✓ (2)

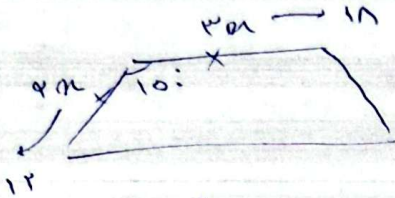
$$S_{\Delta} = \frac{1}{2} ab \sin \alpha$$

$$\max \alpha = \frac{\pi}{2} \quad \min \alpha = \frac{\pi}{2}$$

$$\sqrt{\epsilon} \times \frac{1}{\epsilon} \times \frac{1}{\epsilon} \times \sin \alpha = \epsilon / \delta$$

$$\sin \alpha = \left(\frac{\epsilon \delta}{\sqrt{\epsilon}} \right) = \frac{\epsilon \delta}{\sqrt{\epsilon}} = \left(\frac{\sqrt{\epsilon}}{\epsilon} \right)$$

$$\frac{\sqrt{\epsilon}}{\epsilon} = \left(\frac{1}{\sqrt{\epsilon}} \right)$$



$\sin \alpha$:

$$\frac{1}{\epsilon} \times \frac{1}{\epsilon} \times \frac{1}{\epsilon} \times \frac{1}{\epsilon} = \frac{1}{\epsilon} \times \frac{1}{\epsilon} = \frac{1}{\epsilon^2}$$

$$n^2 = \frac{10 \times 1}{1}$$

$$n = \sqrt{10}$$

$$(10 \times 1 + 10 \times 1) \times 1 = 20$$

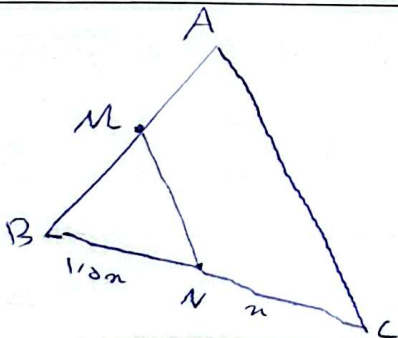
$$\frac{1}{\epsilon} \times \frac{1}{\epsilon} \times \frac{1}{\epsilon} \times \sin \alpha = \frac{1}{\epsilon} \times \frac{1}{\epsilon} \times \sin \alpha$$

$$\tan \hat{A} = \frac{1}{\sqrt{\epsilon}} = \frac{1}{\sqrt{10}}$$

$$\frac{1}{\epsilon} \sin \hat{A} - \frac{1}{\epsilon} \sin \hat{A} = 1 \times 1$$

$$\frac{1}{\epsilon} \sin \hat{A} = \frac{1 \times 1}{1 \times 1} = 1$$

$$\cos \alpha = \frac{\sqrt{\epsilon}}{\epsilon}$$



$$\left(\frac{S_{ABC}}{S_{BMN}} = 4 \right)$$

$$\frac{1/2 \times 1/2 \times AB \times BC}{1/2 \times 1/2 \times BM \times CN} = 4$$

$$\frac{AB}{BM} = 1/1 = \frac{AM + BM}{BM}$$

$$\frac{AM}{BM} = 1$$

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

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

$\cos \alpha \rightarrow$ نفي

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

نفي