

$$\begin{aligned} \tan \frac{\pi}{4} &= 1 \\ \sin \frac{\pi}{4} &= \frac{1}{\sqrt{2}} \\ \cos \frac{\pi}{4} &= \frac{1}{\sqrt{2}} \end{aligned}$$

$$\frac{\tan \frac{\pi}{4} + i}{1 - i} = \frac{1 + i}{1 - i} = \frac{(1 + i)^2}{1 - i^2} = \frac{1 + 2i - 1}{1 + 1} = i$$

$$\frac{\cos x - \sin x}{\cos x + \sin x} = \frac{\frac{11 \sin x}{\sin x} - \sin x}{\frac{11 \sin x}{\sin x} + \sin x} = \boxed{\frac{11}{\omega}}$$

$$\tan \alpha = \frac{y}{x} \rightarrow \sqrt{y^2 + x^2} = \sqrt{5} \quad \cos \alpha \xrightarrow{\text{Geo}} -\frac{1}{\sqrt{5}}$$

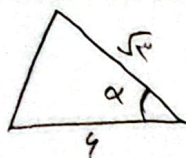
$$\cos\left(\frac{11\pi}{5} + \alpha\right) = \cos\frac{11\pi}{5} \cos\alpha - \sin\frac{11\pi}{5} \sin\alpha = -\frac{\sqrt{2}}{2} (\cos\alpha + \sin\alpha) \quad (\text{اف})$$

$$\sin\left(\frac{10\pi}{\epsilon} + \alpha\right) = \sin\frac{10\pi}{\epsilon} \cos\alpha + \sin\alpha \cos\frac{10\pi}{\epsilon} = -\frac{\sqrt{1-\epsilon^2}}{\epsilon} \left(\frac{V\sin\alpha}{\cos\alpha + \sin\alpha} \right)$$

$$\tan\alpha = \frac{\sin\alpha}{\cos\alpha} = \frac{1}{V} \rightarrow \sqrt{1+V^2} = \sqrt{10} = \sqrt{1+\frac{1}{V^2}} \rightarrow \sin\alpha = \frac{1}{\sqrt{10}}$$

$$\frac{1}{\sqrt{10}} + \frac{1}{\sqrt{10}} = \frac{2}{\sqrt{10}} = \frac{1}{5} = \frac{-\epsilon}{\omega}$$

$$\left. \begin{aligned} \cos^2 x &= \frac{x}{y} - r \sin^2 x \\ \cos^2 x &= 1 - \sin^2 x \end{aligned} \right\} \begin{aligned} \frac{x}{y} - r \sin^2 x &= 1 - \sin^2 x \\ \sin^2 x &= \frac{1}{r} \end{aligned} \quad \tan^2 x = \frac{\sin^2 x}{\cos^2 x} = \frac{\frac{1}{r}}{\frac{x}{y}} = \frac{1}{\frac{xy}{r}}$$

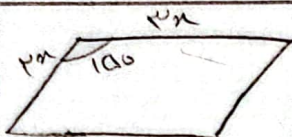


$$\frac{1}{4} \times \sqrt{3} \times 4 \times \sin \alpha = \frac{40}{10} \rightarrow \sin \alpha = \frac{\frac{40}{10}}{\frac{\sqrt{3}}{4}} = \frac{40}{10\sqrt{3}} = \frac{4\sqrt{3}}{10}$$

$$\alpha < \frac{40}{100}$$

$$\frac{100}{40} = \frac{5}{2} \text{ برای } \alpha$$

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$$2 \times 10 \times \sin 120 = 10$$

$$P = 2(4\sqrt{3} + 4\sqrt{3}) = 16\sqrt{3}$$

$$S = 10 \times 10 \times \sin 120 = 50\sqrt{3}$$

$$\frac{S}{P} = \frac{50\sqrt{3}}{16\sqrt{3}} = \frac{25}{8}$$

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$$S_{ABC} - S_{ADE} \rightarrow \left(\frac{1}{2} \times AB \times AC \times \sin A \right) - \left(\frac{1}{2} \times AE \times AD \times \sin A \right) = \sin A (AB \cdot AC - AE \cdot AD) = 10 \cdot 10$$

$$\sin A = \frac{10}{10} = 1 \rightarrow \cos A = \frac{1}{2} \rightarrow \tan A = \frac{\sin A}{\cos A} = \frac{1}{\frac{1}{2}} = 2$$

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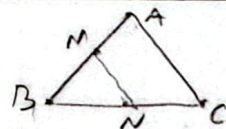
$$2BN = 3NC \rightarrow \frac{BN}{NC} = \frac{3}{2}, \frac{BN}{BC} = \frac{3}{5}$$

$$S_{ABC} = \frac{1}{2} \times AB \times BC \times \sin B$$

$$S_{BMN} = \frac{1}{2} \times BM \times BN \times \sin B$$

$$\frac{S_{BMN}}{S_{ABC}} = \frac{BM \times BN}{AB \times BC} \rightarrow \frac{1}{5} = \frac{BM}{AB} \times \frac{3}{5} \rightarrow \frac{BM}{AB} = \frac{1}{3}$$

$$AM = AB - \frac{BM}{3} = \frac{2}{3}AB \rightarrow \frac{BM}{AM} = \frac{1}{2} = \frac{1}{2}$$



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

در ناحیه سوم

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

$$\sin \alpha < 0$$

sin alpha, cos alpha < 0 -> در ناحیه سوم

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