

$$2\pi = \frac{17\pi}{4}$$

$$11\pi/4 - 17\pi/4 = -6\pi/4$$

$$17\pi/4 - 11\pi/4 = 6\pi/4$$

$$11\pi/4 - 6\pi/4 = 5\pi/4$$

$$\tan^2 \frac{\pi}{4} + \sin^2 \frac{\sqrt{2}\pi}{4} \cos^2 \frac{\pi}{4}$$

$$1^2 + \frac{1}{2} = \frac{3}{2}$$

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$$\tan^2 \frac{\pi}{4} + \sin^2 \frac{\sqrt{2}\pi}{4} \cos^2 \frac{\pi}{4}$$

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

$$-1 + \frac{1}{2} = -\frac{1}{2}$$

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$$-\frac{1}{\sqrt{2}} - \frac{\sqrt{2}}{2} - \frac{1}{2} = \frac{1}{2}$$

$$\cot x = 2$$

$$\frac{\cos x}{\sin x} = 2$$

$$\sin x = \frac{2}{\sqrt{5}}$$

$$\frac{2 \cot x - 1}{\cot x + 1} = \frac{2 - 1}{2 + 1} = \frac{1}{3} = \frac{1}{\sqrt{10}}$$

$$\cos x = \frac{1}{\sqrt{5}}$$

$$\frac{\sin x}{\cos x} = 2 \Rightarrow \tan x = 2$$

$$1 + \tan^2 x = \frac{1}{\cos^2 x} \Rightarrow 1 + 2^2 = \frac{1}{\cos^2 x}$$

$$\sin x = \frac{2}{\sqrt{5}}$$

$$\cos x = \frac{1}{\sqrt{5}}$$

$$\cos\left(\frac{17\pi}{4} + x\right) = \cos\left(\frac{13\pi}{4} + x\right)$$

$$\cos(a+b) = \cos a \cos b - \sin a \sin b$$

$$\cos \frac{13\pi}{4} = -\frac{\sqrt{2}}{2}$$

$$\cos x = -\sqrt{1 - \sin^2 x}$$

$$\cos\left(\frac{13\pi}{4} + x\right) = \cos \frac{13\pi}{4} \cos x - \sin \frac{13\pi}{4} \sin x$$

$$\left(-\frac{\sqrt{2}}{2}\right)\left(-\frac{\sqrt{2}}{2}\right) - \left(-\frac{\sqrt{2}}{2}\right)\left(\frac{\sqrt{2}}{2}\right) = \frac{1}{2}$$

$$\sin x = \frac{1}{\sqrt{2}}$$

$$\sin\left(2\pi + \frac{\pi}{4}\right) = \sin\left(\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

$$\cos\left(2\pi + \frac{\pi}{4}\right) = \cos\left(\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

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

$$\sin x = \frac{1}{\sqrt{2}}$$

$$\sin\left(2\pi + \frac{\pi}{4}\right) = \sin\left(\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

$$\cos\left(2\pi + \frac{\pi}{4}\right) = \cos\left(\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

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

$$\sin^2 x = 1 - \cos^2 x$$

$$\cos^2 x + 2(1 - \cos^2 x) = \frac{1}{2}$$

$$\cos^2 x = 1 - \frac{1}{2} = \frac{1}{2}$$

$$\sin^2 x = 1 - \frac{1}{2} = \frac{1}{2}$$

$$\sin x = \frac{1}{\sqrt{2}}$$

$$\tan x = \frac{\sin x}{\cos x} = \frac{1/\sqrt{2}}{1/\sqrt{2}} = 1$$

$$\tan x = 1$$

$$\tan x = 1$$

$$r \cdot \theta = \frac{q}{p}$$

$$\frac{q}{p} = \frac{1}{p} \times 6 + \sqrt{3} \sin \alpha$$

$$\sin \alpha = \frac{3}{2\sqrt{3}} = \frac{\sqrt{3}}{2} \Rightarrow \alpha = 60^\circ \text{ or } 120^\circ$$

$$\frac{120}{60} = 2 \checkmark$$

$$A = ab \sin \theta$$

$$\omega r = 2K \times 3K \sin 120^\circ$$

نسبت ضلع ها ۲:۳:۴
۲K و ۳K در نظر بگیریم

$$\omega r = 6K \times \frac{1}{p} = 3K^2$$

$$3K^2 = \omega r$$

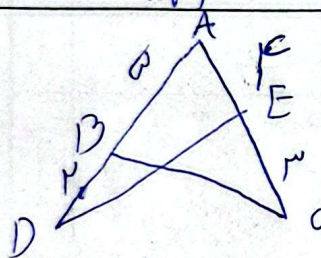
$$2K = 6\sqrt{p}$$

$$\text{محیط} = 2(a+b) = 2(9\sqrt{p} + 9\sqrt{p})$$

$$K^2 = 11$$

$$3K = 9\sqrt{p}$$

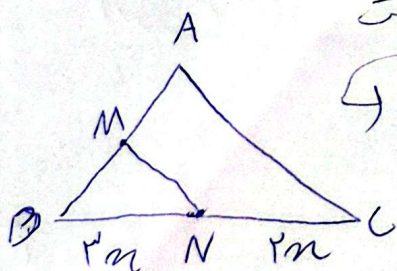
$$2(18\sqrt{p}) = 36\sqrt{p} \checkmark$$



$$\sin A \left(\frac{1}{p} \times \cancel{p} \times \cancel{p} - \frac{1}{p} \times \cancel{p} \times \cancel{p} \right) = \frac{p}{p}$$

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

$$A = 30^\circ \Rightarrow \tan A = \frac{\sqrt{3}}{3} \checkmark$$



$$\frac{BM}{AB} = \frac{MN}{AC} = \frac{BN}{BC} = \frac{BM}{AB} \times \frac{p}{p} = \frac{1}{p}$$

$$\frac{BM}{AB} = \frac{p}{9} \Rightarrow \frac{BM}{AM} = \frac{p}{p} = 1:2 \checkmark$$

$$\sqrt{\cos^2 \alpha} = |\cos \alpha|$$

$$1 - \sin \alpha \times |\cos \alpha| = 1 + \sin \alpha$$

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

$$\frac{|\cos \alpha|}{\cos \alpha} = \begin{cases} +1 & \cos \alpha > 0 \\ -1 & \cos \alpha < 0 \end{cases}$$

$$\rightarrow 1 - \sin \alpha(-1) = 1 + \sin \alpha$$

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

$$\frac{6}{p} \times \frac{p}{p} = \frac{6}{p}$$

$$\cos \alpha < 0 \rightarrow \sin \alpha < 0 \rightarrow \text{ربع سوم} \checkmark$$