

$$\begin{aligned} r\pi &= \frac{17\pi}{5} & \tan \frac{17\pi}{5} + \sin \frac{17\pi}{5} \cos \frac{17\pi}{5} & \quad (\text{civ}) \\ 11\frac{\pi}{5} - 17\frac{\pi}{5} &= \frac{17\pi}{5} & 11\frac{\pi}{5} - 17\pi &= 0 \quad \frac{\pi}{5} \quad -1 + \left(-\frac{\sqrt{5}}{5}\right)\left(-\frac{\sqrt{5}}{5}\right) = \frac{1}{5} \\ 14\frac{\pi}{5} - 11\frac{\pi}{5} &= 0 \quad \frac{\pi}{5} & 17\pi - 9\pi &= \frac{17\pi}{5} \\ 11\frac{\pi}{5} - 9\pi &= 0 \quad \frac{\pi}{5} & \tan \frac{17\pi}{5} + \sin \frac{17\pi}{5} + \cos \frac{17\pi}{5} &= \Rightarrow \frac{1}{\sqrt{5}} - \frac{\sqrt{5}}{5} - \frac{1}{5} \end{aligned}$$

$\cot x = 3$
 $\frac{\cos}{\sin} x = 3$
 $\Downarrow$
 $\Rightarrow \sin x = \frac{1}{\sqrt{10}}$

$\cos \alpha = \frac{1}{2} \Rightarrow \sin \alpha = \frac{\sqrt{3}}{2}$
 $\tan \alpha = \frac{\sin \alpha}{\cos \alpha} = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \sqrt{3}$
 $\Rightarrow \alpha = 60^\circ$

$\frac{11\pi}{12} = 2\pi + \frac{5\pi}{12}$ (الف)
 $\sin = ? +$
 $\cos = ? -$
 $\cos\left(\frac{11\pi}{12} + \alpha\right) = \cos\left(\frac{5\pi}{12} + \alpha\right)$ $\cos(a+b) = \cos a \cos b - \sin a \sin b$
 $\cos\frac{5\pi}{12} = -\frac{\sqrt{2}}{2}$ $\cos\left(\frac{5\pi}{12} + \alpha\right) = \cos\frac{5\pi}{12} \cos\alpha - \sin\frac{5\pi}{12} \sin\alpha$
 $\sin\frac{5\pi}{12} = \frac{\sqrt{2}}{2}$ $\cos\alpha = -\sqrt{1 - \sin^2\alpha}$ $\sin\alpha = \sqrt{1 - \cos^2\alpha}$
 $\sin\alpha = \frac{1}{2}$ $\cos\alpha = -\sqrt{1 - \frac{1}{4}} = -\sqrt{\frac{3}{4}} = -\frac{\sqrt{3}}{2}$
 $\sin(2\pi + \pi + \frac{\pi}{6}) = \sin(\pi + \frac{\pi}{6}) = -\frac{1}{2}$
 $\cos(2\pi + \pi + \frac{\pi}{6}) = \cos(\pi + \frac{\pi}{6}) = -\frac{\sqrt{3}}{2}$
 $\sin\frac{\pi}{6} = \frac{1}{2}$ $\cos\frac{\pi}{6} = \frac{\sqrt{3}}{2}$
 $\sin\frac{5\pi}{12} = \sin\left(\frac{\pi}{4} + \frac{\pi}{6}\right) = \sin\frac{\pi}{4} \cos\frac{\pi}{6} + \cos\frac{\pi}{4} \sin\frac{\pi}{6} = \frac{\sqrt{2}}{2} \cdot \frac{\sqrt{3}}{2} + \frac{\sqrt{2}}{2} \cdot \frac{1}{2} = \frac{\sqrt{6} + \sqrt{2}}{4}$
 $\cos\frac{5\pi}{12} = \cos\left(\frac{\pi}{4} + \frac{\pi}{6}\right) = \cos\frac{\pi}{4} \cos\frac{\pi}{6} - \sin\frac{\pi}{4} \sin\frac{\pi}{6} = \frac{\sqrt{2}}{2} \cdot \frac{\sqrt{3}}{2} - \frac{\sqrt{2}}{2} \cdot \frac{1}{2} = \frac{\sqrt{6} - \sqrt{2}}{4}$
 $\sin\frac{11\pi}{12} = \sin\left(2\pi + \frac{5\pi}{12}\right) = \sin\frac{5\pi}{12} = \frac{\sqrt{6} + \sqrt{2}}{4}$
 $\cos\frac{11\pi}{12} = \cos\left(2\pi + \frac{5\pi}{12}\right) = \cos\frac{5\pi}{12} = \frac{\sqrt{6} - \sqrt{2}}{4}$

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

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

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

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

$$A = ab \sin \theta$$

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

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

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

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

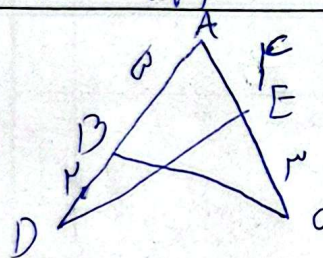
$$2K = 6\sqrt{p}$$

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

$$K^2 = 12$$

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

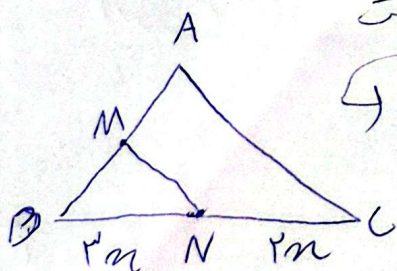
$$2(18\sqrt{p}) = \boxed{36\sqrt{p}}$$



$$\sin A \left(\frac{1}{3} \times \frac{2}{3} \times \frac{2}{3} - \frac{1}{3} \times \frac{1}{3} \times \frac{2}{3} \right) = \frac{V}{K}$$

$$\frac{V}{p} \sin A = \frac{V}{p} \Rightarrow \sin A = \frac{p}{p} = \frac{1}{2}$$

$$A = 30^\circ \Rightarrow \text{توان } A = \boxed{\frac{\sqrt{3}}{2}}$$



$$\frac{\text{مساحت } BMN}{\text{مساحت } ABC} = \frac{BM \times BN}{BA \times BC} = \frac{BM}{BA} \times \frac{BN}{BC} = \frac{1}{4}$$

$$\frac{BM}{AB} = \frac{1}{2} \Rightarrow \frac{BM}{AM} = \frac{1}{1} \Rightarrow \boxed{1:1}$$

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

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

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

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

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

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

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

$$\frac{6}{p} \times \frac{12}{p} \times \frac{12}{p} = \frac{216}{p^3}$$

$$\cos \alpha < 0 \Rightarrow \text{مربع ۳} \Rightarrow \sin \alpha < 0 \Rightarrow \text{مربع ۳} \Rightarrow \boxed{\text{ربع سوم}}$$