

$$\cos \alpha = \frac{1}{r} \sin \alpha \cdot AB \cdot AC \rightarrow \cos \alpha = \frac{1}{r} \sin \alpha (4\sqrt{5})$$

$$\sin \alpha = \frac{4\alpha}{4\sqrt{5}} = \frac{1\alpha}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} = \frac{4\sqrt{5}\alpha}{5} = \frac{\sqrt{5}}{r}$$

$$\sin \alpha = \frac{\sqrt{5}}{r} \rightarrow \alpha = \frac{\pi}{r} (\min) \rightarrow \alpha = \frac{r\pi}{r} (\max)$$

$$\frac{\alpha_{\max}}{\alpha_{\min}} = \frac{\frac{r\pi}{r}}{\frac{\pi}{r}} = r$$

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$$\begin{cases} s = a \cdot r \\ \frac{a}{b} = \frac{r}{r} \\ \alpha = 1\alpha \end{cases}$$

$$\begin{cases} a = 1m \\ b = 1m \end{cases}$$

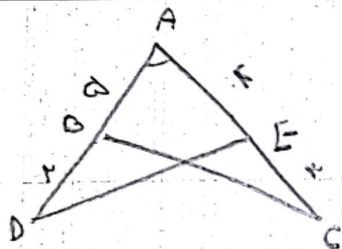
$$s = ab \sin \alpha \rightarrow \Delta f = (1m / 1m) \times \frac{1}{r} \rightarrow m^2 = 1\alpha \rightarrow m = \sqrt{1\alpha} = r\sqrt{r}$$

$$a = 1m = r \times r\sqrt{r} = r\sqrt{r}$$

$$b = 1m = r \times r\sqrt{r} = r\sqrt{r}$$

$$p = r(a+b) = r(r\sqrt{r} + r\sqrt{r}) = r(2r\sqrt{r}) = 2r\sqrt{r}$$

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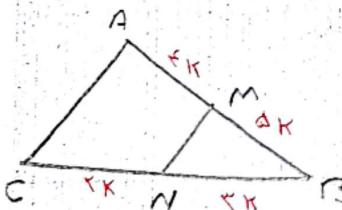


$$S_{ABC} - S_{ADE} = 1/2 \Delta$$

$$\begin{cases} S_{ABC} = \frac{1}{2} \times \Delta \times V \times \sin A = 1/2 \Delta \sin A \\ S_{ADE} = \frac{1}{2} \times r \times V \times \sin A = 1/2 \sin A \end{cases} \rightarrow \sin A = \frac{1}{r}$$

$$\tan A = \tan \alpha = \frac{\sqrt{r}}{r}$$

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$$r \overline{BN} = r \overline{NC} \rightarrow \frac{BN}{NC} = \frac{r}{r} \rightarrow \overline{BN} = r \overline{NC} \rightarrow \overline{NC} = 1h$$

$$S_{ABC} = r S_{BMN}$$

$$\frac{S_{ABC}}{S_{BMN}} = \frac{\frac{1}{2} \times AB \times BC \times \sin B}{\frac{1}{2} \times BM \times BN \times \sin B} = r \rightarrow \frac{AB}{BM} = r$$

$$\frac{BM}{AB} = \frac{\Delta K}{rK} \rightarrow \frac{BM}{AM} = \frac{\Delta K}{rK} = 1/r \Delta$$

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

$$\rightarrow -\frac{\sin \alpha}{\cos \alpha} = \frac{\sin \alpha}{|\cos \alpha|} \rightarrow \cos > 0 \rightarrow -\frac{\sin \alpha}{\cos \alpha} = \frac{\sin \alpha}{\cos \alpha} \rightarrow \sin \alpha = 0 \rightarrow \alpha = 0, \pi$$

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

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