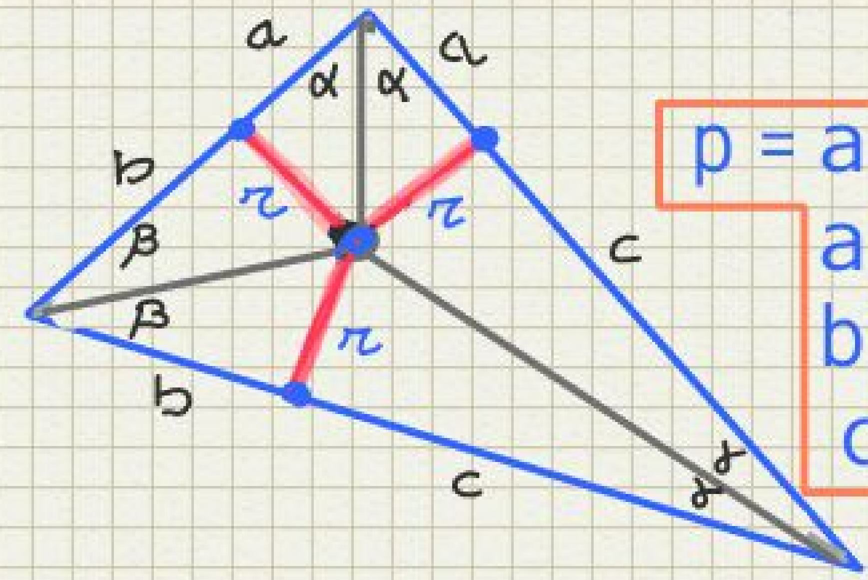

$$\boxed{\begin{aligned} p &= a+b+c \\ a\tan\alpha &= r \\ b\tan\beta &= r \\ c\tan\gamma &= r \end{aligned}}$$

$$\alpha+\beta+\gamma = \frac{\pi}{2}$$

$$\cos(\alpha+\beta+\gamma) = 0$$

$$\cos(\alpha+\beta)\cos\gamma = \sin(\alpha+\beta)\sin\gamma$$

$$\cos\alpha\cos\beta\cos\gamma - \sin\alpha\sin\beta\cos\gamma$$
$$=$$
$$\sin\alpha\cos\beta\sin\gamma + \cos\alpha\sin\beta\sin\gamma$$

$$\boxed{1 = \tan\alpha\tan\beta + \tan\alpha\tan\gamma + \tan\beta\tan\gamma}$$

$$1 = \frac{r^2}{ab} + \frac{r^2}{ac} + \frac{r^2}{bc}$$

$$\underline{A} = \frac{r(a+c) + r(a+b) + r(b+c)}{2}$$

$$= r(a+b+c) = \underline{rp}$$

$$1 = \frac{r^2 p}{abc} = \frac{A^2}{pabc}$$

$$\begin{aligned} a+b &= L_1 \\ a+c &= L_2 \\ b+c &= L_3 \end{aligned} \quad \rightarrow \quad \begin{aligned} a &= p - L_3 \\ b &= p - L_2 \\ c &= p - L_1 \end{aligned}$$

$$\boxed{A = \sqrt{p(p-L_1)(p-L_2)(p-L_3)}}$$

Heron formula