

1°.

$$B_1B_2 = a \sin \alpha,$$

$$B_2B_3 = AB_2 \cdot \sin \alpha = a \cos \alpha \sin \alpha,$$

$$B_3B_4 = AB_3 \cdot \sin \alpha = a \cos^2 \alpha \sin \alpha,$$

.....

Ennélfogva

$$\begin{aligned} B_1B_2 + B_2B_3 + B_3B_4 + \dots &= a \sin \alpha (1 + \cos \alpha + \cos^2 \alpha + \dots) = \\ &= \frac{a \sin \alpha}{1 - \cos \alpha} = \frac{2a \sin \frac{\alpha}{2} \cos \frac{\alpha}{2}}{2 \sin^2 \frac{\alpha}{2}} = a \operatorname{ctg} \frac{\alpha}{2}. \end{aligned}$$

2°.

$$t_1 = \frac{1}{2} a^2 \cos \alpha \sin \alpha,$$

$$t_2 = \frac{1}{2} a^2 \cos^3 \alpha \sin \alpha,$$

$$t_3 = \frac{1}{2} a^2 \cos^5 \alpha \sin \alpha,$$

.....

$$\begin{aligned} t_1 + t_2 + t_3 + \dots &= \frac{1}{2} a^2 \sin \alpha (\cos \alpha + \cos^3 \alpha + \cos^5 \alpha + \dots) = \\ &= \frac{a^2 \sin \alpha \cos \alpha}{2(1 - \cos^2 \alpha)} = \frac{a^2 \cos \alpha}{2 \sin \alpha} = \frac{a^2}{2} \operatorname{ctg} \alpha. \end{aligned}$$

3°. Ha

$$\frac{a^2}{2} \operatorname{ctg} \alpha = a^2,$$

akkor

$$\operatorname{ctg} \alpha = 2,$$

miből

$$\alpha = 26^\circ 33' 54''.$$

(Szenes Andor, Kaposvár.)