1°.

$$B_1B_2 = a\sin\alpha,$$
$$B_2B_3 = AB_2 \cdot \sin\alpha = a\cos\alpha\sin\alpha,$$
$$B_3B_4 = AB_3 \cdot \sin\alpha = a\cos^2\alpha\sin\alpha,$$
$$\ldots\ldots\ldots\ldots$$

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$$B_1B_2 + B_2B_3 + B_3B_4 + \ldots = a\sin\alpha(1 + \cos\alpha + \cos^2\alpha + \ldots) =$$
$$= \frac{a\sin\alpha}{1-\cos\alpha} = \frac{2a\sin\frac{\alpha}{2}\cos\frac{\alpha}{2}}{2\sin^2\frac{\alpha}{2}} = a\ \mathrm{ctg}\frac{\alpha}{2}.$$

2°.

$$t_1 = \frac{1}{2}a^2\cos\alpha\sin\alpha,$$
$$t_2 = \frac{1}{2}a^2\cos^3\alpha\sin\alpha,$$
$$t_3 = \frac{1}{2}a^2\cos^5\alpha\sin\alpha,$$
$$\ldots\ldots\ldots$$
$$t_1 + t_2 + t_3 + \ldots = \frac{1}{2}a^2\sin\alpha(\cos\alpha + \cos\alpha^2 + \cos^5\alpha + \ldots) =$$
$$= \frac{a^2\sin\alpha\cos\alpha}{2(1-\cos^2\alpha)} = \frac{a^2\cos\alpha}{2\sin\alpha} = \frac{a^2}{2}\mathrm{ctg}\ \alpha.$$

3°. Ha

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

akkor

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

miből

$$\alpha = 26°33'54''.$$

(Szenes Andor, Kaposvár.)