

$$AM = DK = \sqrt{2}.$$
$$x^2 = 9 + x^2 - 6x \cos \delta$$
$$\left(x + 2\sqrt{2}\right)^2 = 9 + x^2 + 6x \cos \delta.$$
$$x \cos \delta = \frac{3}{2}.$$
$$BS^2 = 1 + x^2 - 2x \cos \delta = \frac{9}{8}, \quad BS = 3 \cdot \frac{\sqrt{2}}{4};$$

$$CS^2 = 1 + x^2 + 2x \cos \delta = \frac{57}{8}, \quad CS = \frac{\sqrt{114}}{4}.$$

A *BS* és *CJ* szelőkre alkalmazva a szelőkre és érintőre vonatkozó tételt.

$$BH \cdot BS = BK^2 = (BD - DK)^2 = (x - \sqrt{2})^2,$$

$$BH = \frac{(x - \sqrt{2})^2}{BS} = \frac{\sqrt{2}}{12},$$

$$CS \cdot CJ = CK^2 = (CD + DK)^2 = (x + \sqrt{2})^2,$$

$$CJ = \frac{(x + \sqrt{2})^2}{CS} = \frac{27\sqrt{114}}{76}.$$

Így a keresett arányok

$$\begin{aligned} BH : HS : SE &= BH : (BS - BH) : \frac{1}{2}BS = \\ \frac{\sqrt{2}}{12} : \left(\frac{3}{4}\sqrt{2} - \frac{\sqrt{2}}{12} \right) : \frac{3\sqrt{2}}{8} &= 2 : 16 : 9, \\ CS : SJ : JF &= CS : (CJ - CS) : \left(\frac{3}{2} \cdot CS - CJ \right) = \\ \frac{\sqrt{114}}{4} : \left(\frac{27\sqrt{114}}{76} - \frac{\sqrt{114}}{4} \right) : \left(\frac{3\sqrt{114}}{8} - \frac{27\sqrt{114}}{76} \right) &= 38 : 16 : 3. \end{aligned}$$