

$$\angle BAC = \arctan\left(\frac{BC}{AB}\right) = \arctan\left(\frac{1}{2}\right) = 26,57^\circ \quad (2)$$

$$\angle CAD = \angle BAD - \angle BAC = 135^\circ - 26,57^\circ = 108,43^\circ$$

$$\begin{aligned} \angle AED &= 180^\circ - \angle CAD - \angle ADB = \\ &= 180^\circ - 108,43^\circ - 26,57^\circ = 45,00^\circ \end{aligned}$$

$$\frac{AD}{\sin \angle AED} = \frac{EA}{\sin \angle ADB} = \frac{ED}{\sin \angle CAD}$$

$$EA = \frac{AD \cdot \sin \angle ADB}{\sin \angle AED} = \frac{1,41 \cdot \sin 26,57^\circ}{\sin 45^\circ} \approx$$

$$= \frac{1,41 \cdot 0,447}{0,707} \approx 0,89$$

$$ED = \frac{AD \cdot \sin \angle CAD}{\sin \angle AED} = \frac{1,41 \cdot \sin 108,43^\circ}{\sin 45^\circ} =$$

$$= \frac{1,41 \cdot 0,943}{0,707} \approx 1,89$$

$$P = \frac{1}{2} \cdot (AD + EA + ED) = \frac{1}{2} \cdot (1,41 + 0,89 + 1,89) \approx 2,10$$

$$S = \sqrt{P \cdot (P - AD) \cdot (P - EA) \cdot (P - ED)} =$$

$$= \sqrt{2,1 \cdot (2,1 - 1,41) \cdot (2,1 - 0,89) \cdot (2,1 - 1,89)} \approx 0,61 \text{ m. eg.}$$