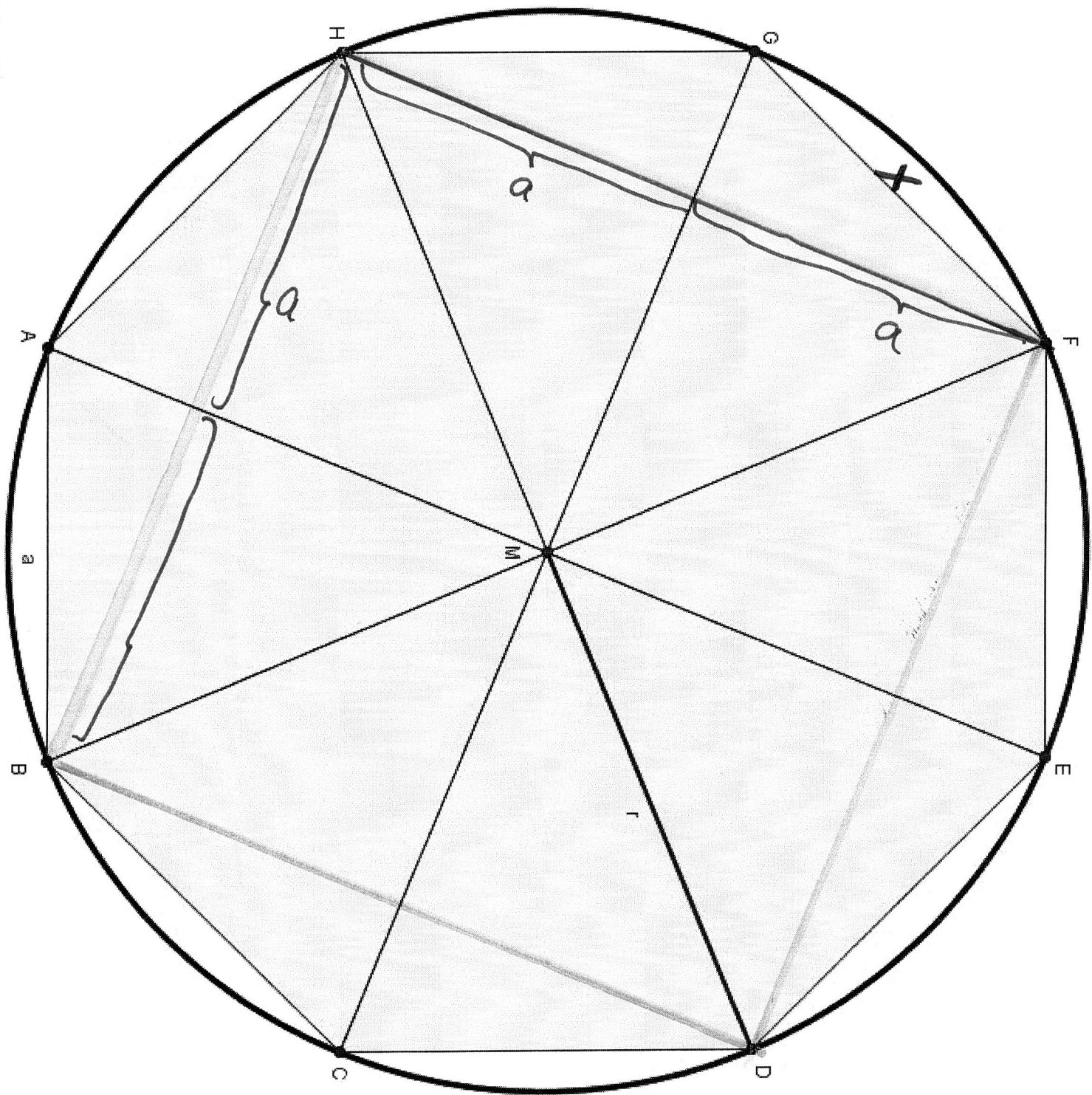


→ Thalesatz
 → Kathetensatz

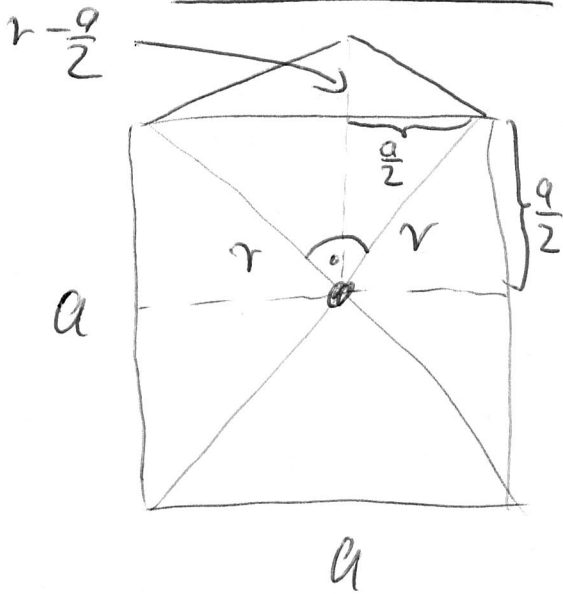
1. Vorbemerkung zu Satz 2



2. Vorbemerkung zu Aufg. 2

zu 2)

Ausschnitt

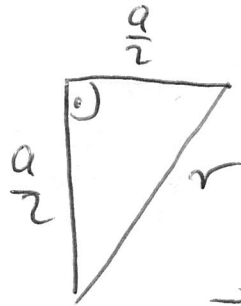


Achtloch:

$$\alpha = \frac{360^\circ}{8} = 45^\circ$$

$$2\alpha = 90^\circ$$

1. Schritt

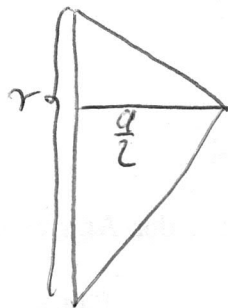


$$r^2 = \left[\frac{a}{2}\right]^2 + \left[\frac{a}{2}\right]^2$$

$$\Rightarrow r^2 = \frac{1}{2} a^2$$

$$\Rightarrow a^2 = 2r^2 \text{ oder } \underline{\underline{a = r\sqrt{2}}}$$

Achtloch:



$$A_{\text{achtloch}} = 8 \cdot A_{\Delta}$$

$$= 8 \cdot \frac{1}{2} \cdot g \cdot h$$

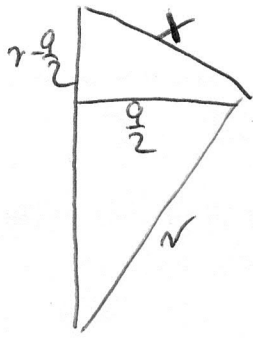
$$= 4 \cdot r \cdot \frac{a}{2}$$

$$= 2ra$$

$$= 2r r \sqrt{2}$$

$$= \underline{\underline{2r^2\sqrt{2}}}$$

U_{achsech}



$$U_{\text{achsech}} = f_0 \cdot x$$

Es gilt:

$$x^2 = \left(r - \frac{a}{2}\right)^2 + \left[\frac{a}{2}\right]^2$$

$$= r^2 - 2r \frac{a}{2} + \frac{a^2}{4} + \frac{a^2}{4}$$

$$= r^2 + \frac{a^2}{2} - r a \quad a = r \sqrt{2}!!!$$

$$\stackrel{!}{=} r^2 + \frac{1}{2} \cdot \underbrace{r^2 \cdot 2}_{a^2} - r \cdot \underbrace{r \sqrt{2}}_a$$

$$= r^2 + r^2 - r^2 \sqrt{2}$$

$$= 2r^2 - r^2 \sqrt{2}$$

$$= r^2 (2 - \sqrt{2})$$

$$x = r \cdot \sqrt{2 - \sqrt{2}}$$

$$U_{\text{achsech}} = f_0 \cdot x = \underline{\underline{f_0 r \sqrt{2 - \sqrt{2}}}}$$