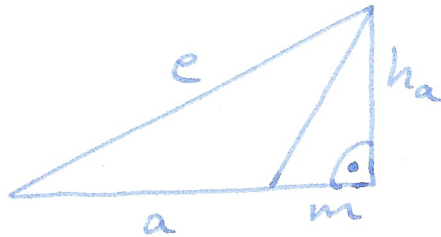
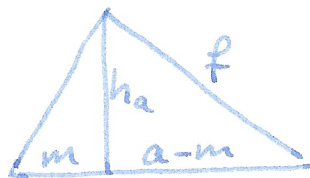


(I)



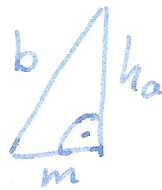
$$e^2 = (a+m)^2 + h_a^2$$

(II)



$$f^2 = (a-m)^2 + h_a^2$$

(III)



$$b^2 = h_a^2 + m^2$$

(IV)

Algebra

$$\begin{aligned} \text{I} &\rightarrow e^2 = a^2 + m^2 + 2ma + h_a^2 \\ \text{II} &\rightarrow f^2 = a^2 + m^2 - 2ma + h_a^2 \quad + \end{aligned}$$

$$\begin{aligned} e^2 + f^2 &= 2a^2 + 2m^2 + 2h_a^2 \\ &= 2a^2 + 2(m^2 + h_a^2) \quad \leftarrow \text{mit III} \\ &= 2a^2 + 2b^2 \\ &= 2(a^2 + b^2) \end{aligned}$$