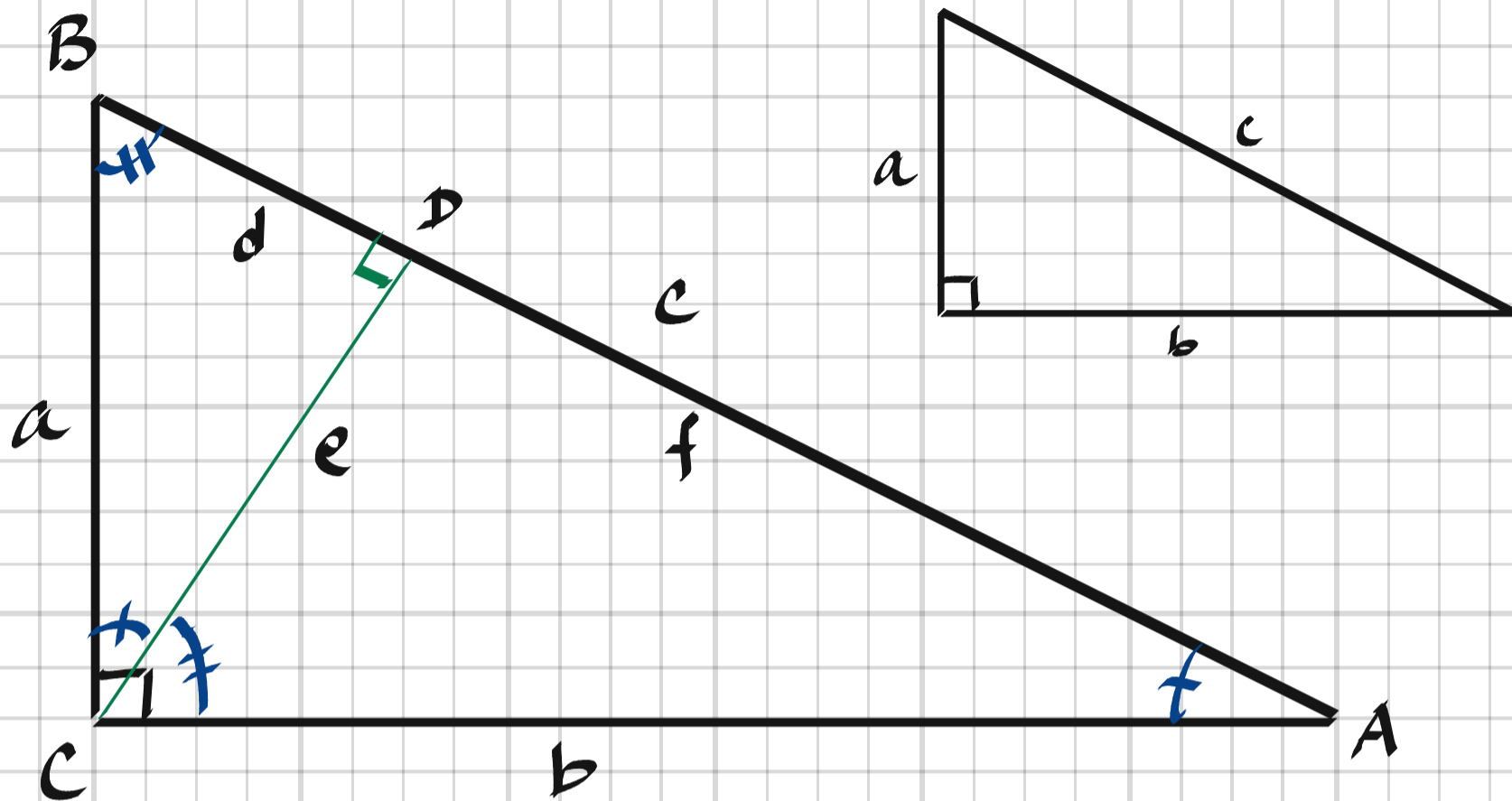


# Pythagoras sats



$$\triangle ABC \sim \triangle ACD \sim \triangle CBD \Rightarrow$$

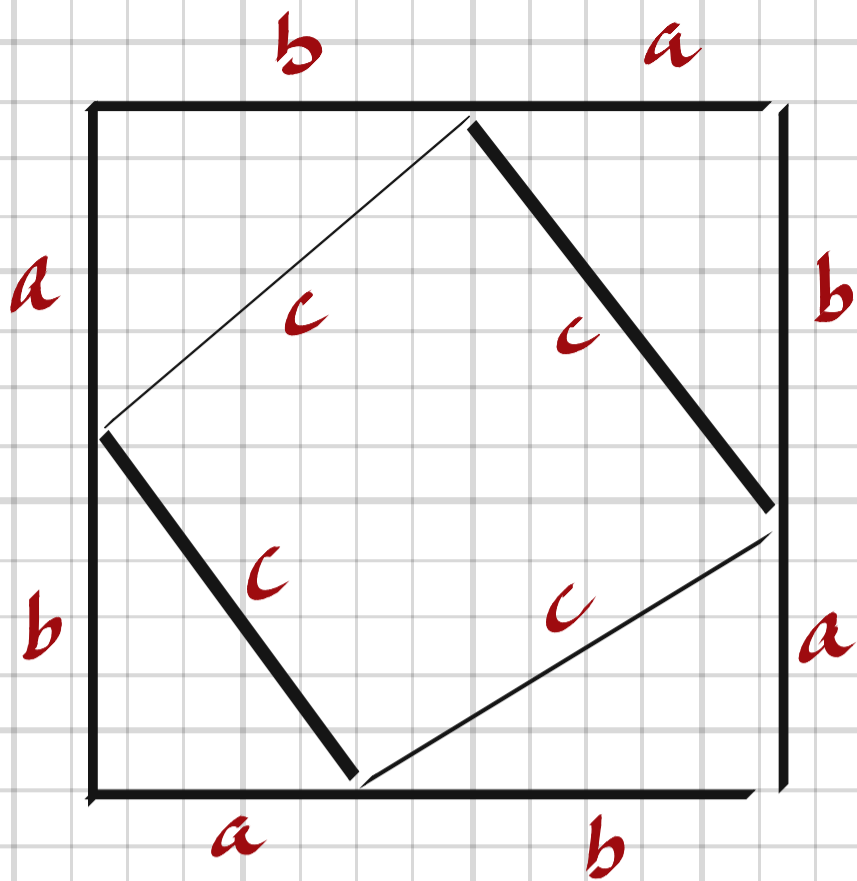
$$\frac{c}{a} = \frac{a}{d} \Rightarrow a^2 = cd \quad (1)$$

$$\frac{c}{b} = \frac{b}{f} \Rightarrow b^2 = cf = c(c-d) = c^2 - cd \quad (2)$$

$$\begin{aligned} (1): \quad d &= \frac{a^2}{c} \\ (2): \quad d &= \frac{c^2 - b^2}{c} \end{aligned} \quad \left. \vphantom{\begin{aligned} (1): \quad d &= \frac{a^2}{c} \\ (2): \quad d &= \frac{c^2 - b^2}{c} \end{aligned}} \right\} \frac{a^2}{c} = \frac{c^2 - b^2}{c} \Rightarrow$$

$$c^2 = a^2 + b^2$$

Alt. 2



$$(a+b)^2 = 4 \frac{ab}{2} + c^2$$

$$a^2 + 2ab + b^2 = 2ab + c^2 \quad \Rightarrow$$

$$c^2 = a^2 + b^2$$

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