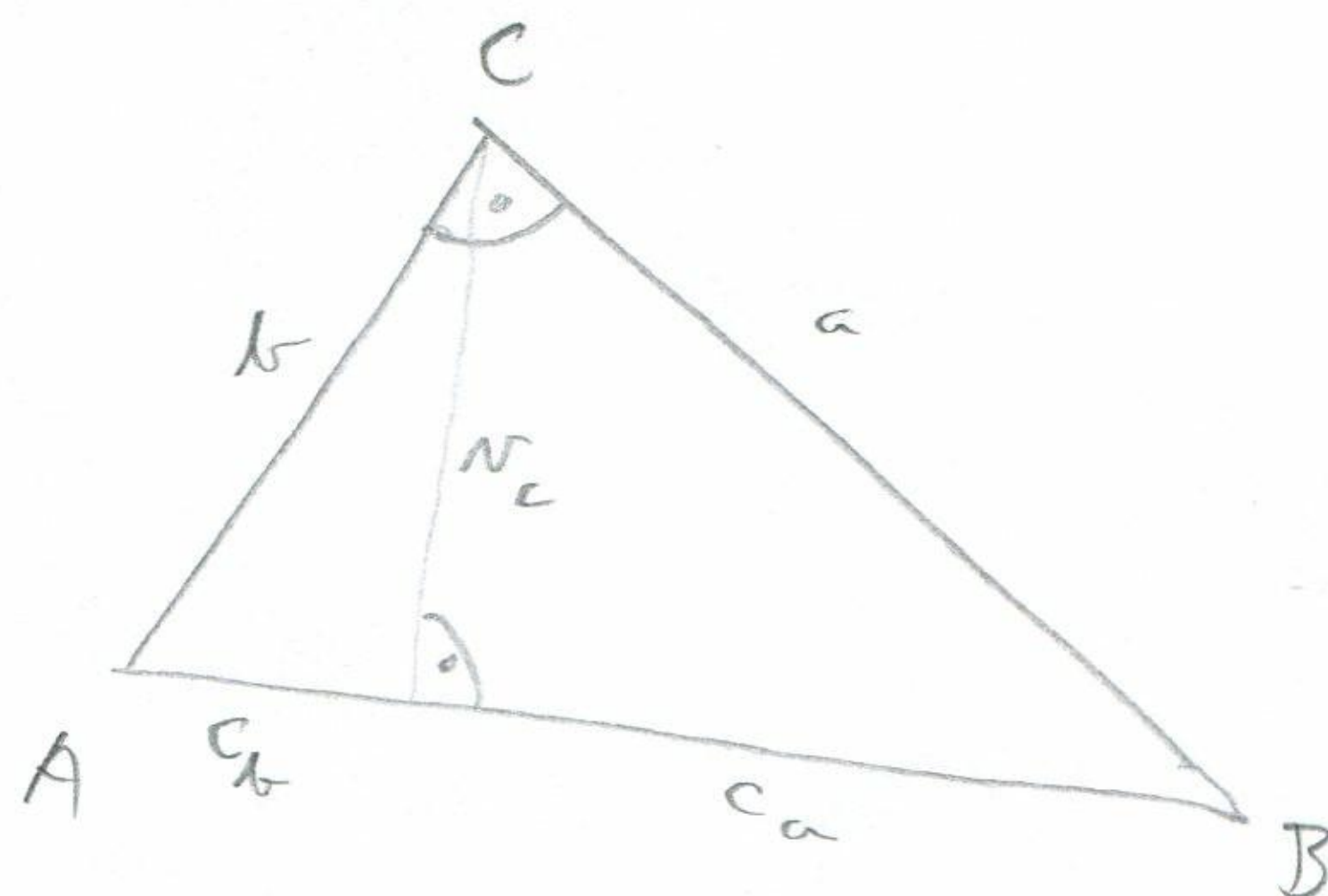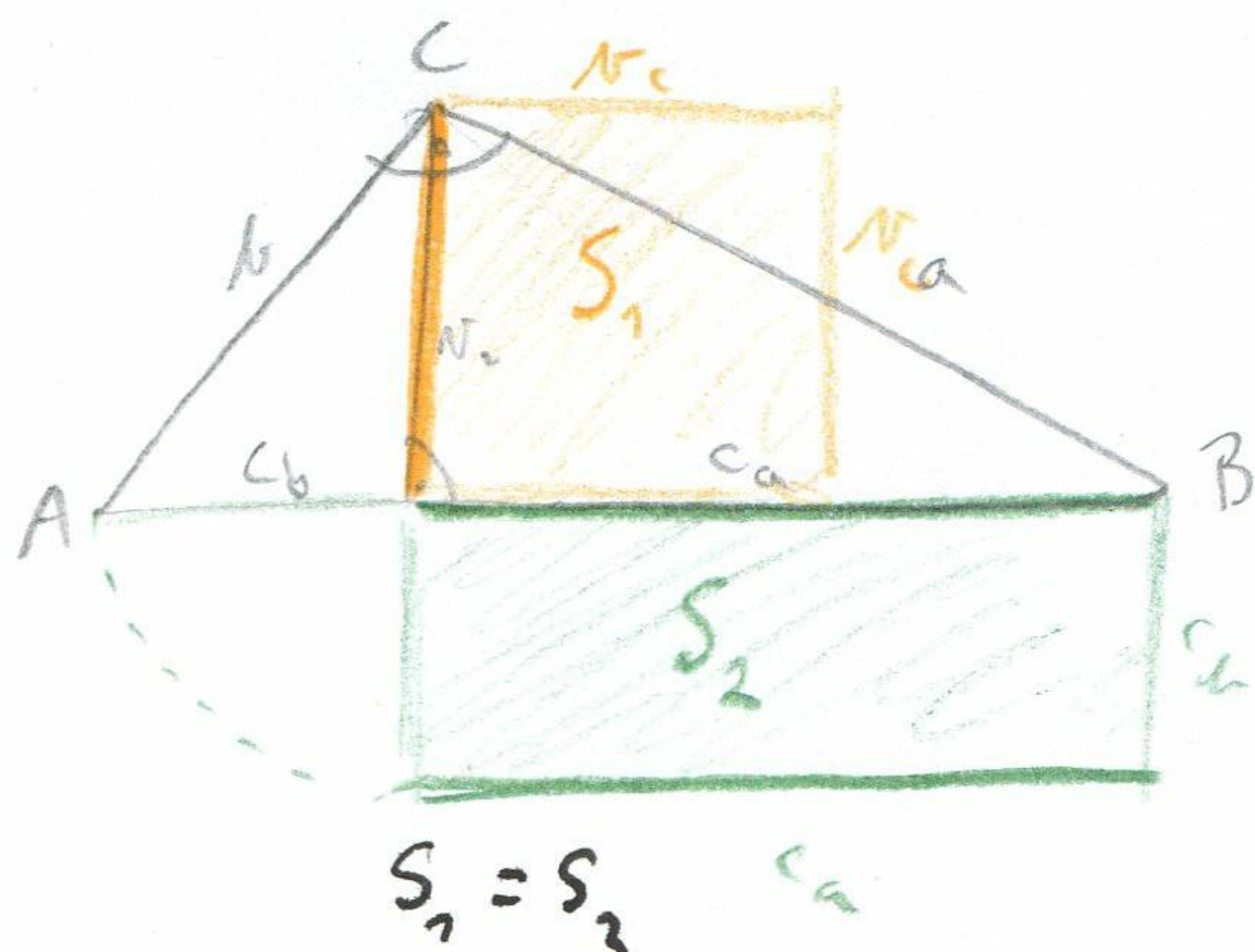# EUKLIDOVY VĚTY

Euklidova věta o výšce

$$N_c^2 = c_a \cdot c_b$$

$S_1 = S_2$

důkaz Pythagorovou větou:

$$N_c^2 = b^2 - c_b^2$$

$$N_c^2 = a^2 - c_a^2$$

$$2N_c^2 = a^2 + b^2 - c_a^2 - c_b^2$$

$$2N_c^2 = c^2 - c_a^2 - c_b^2$$

$$2N_c^2 = (c_a + c_b)^2 - c_a^2 - c_b^2$$

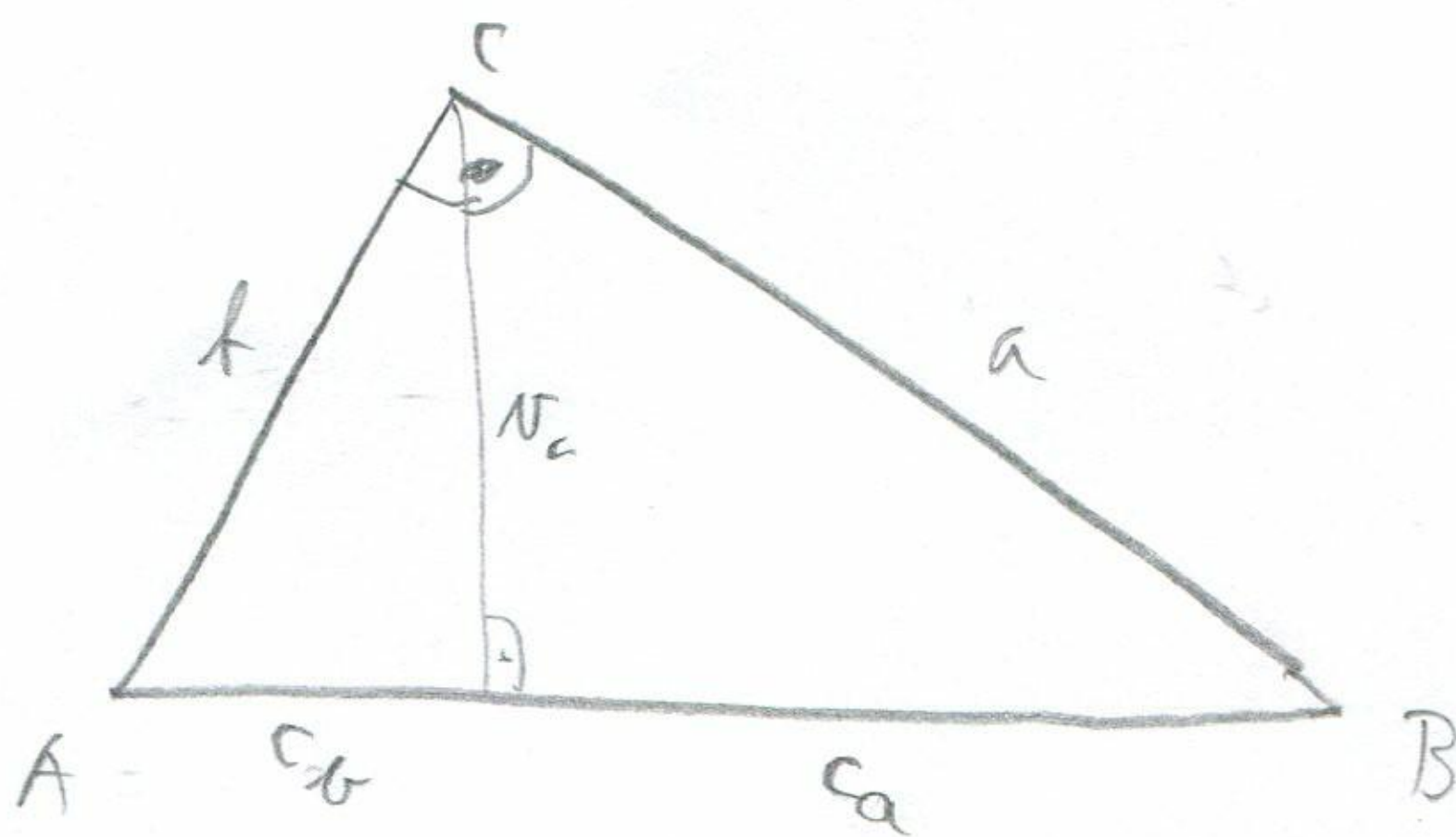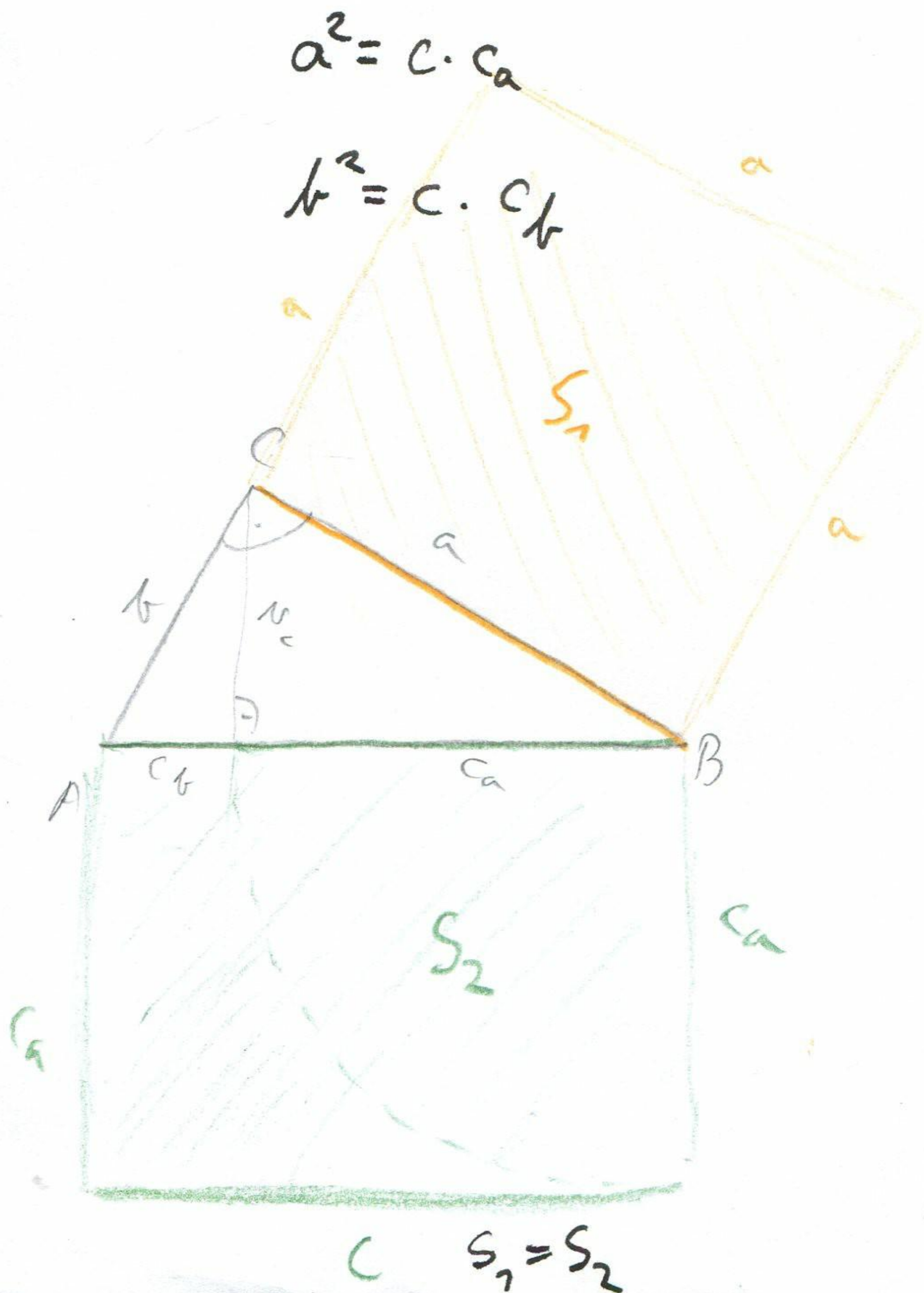$$2N_c^2 = c_a^2 + 2 \cdot c_a \cdot c_b + c_b^2 - c_a^2 - c_b^2$$

$$2N_c^2 = 2 \cdot c_a \cdot c_b$$

$$N_c^2 = c_a \cdot c_b$$

Euklidova věta o odvěsně

$$a^2 = c \cdot c_a$$

$$b^2 = c \cdot c_b$$

$S_1 = S_2$

důkaz z Eukl. v. o výšce a Pyth. v.:

$$a^2 = N_c^2 + c_a^2$$

$$a^2 = c_a c_b + c_a^2$$

$$a^2 = c_a (c_b + c_a)$$

$$a^2 = c_a \cdot c$$