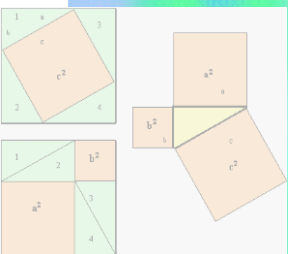
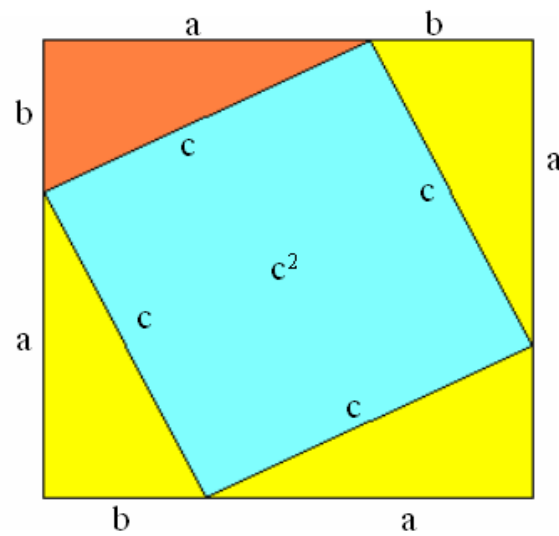
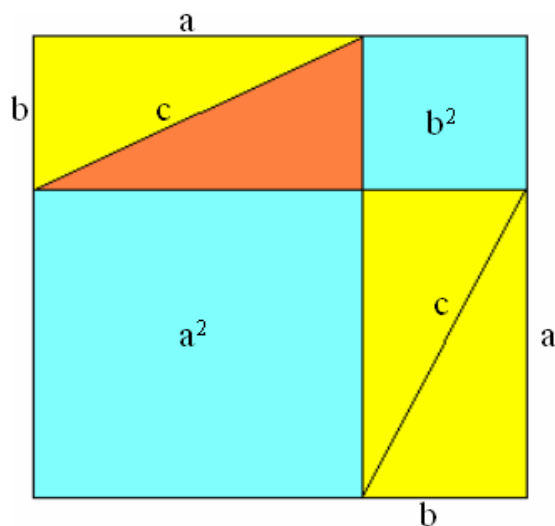


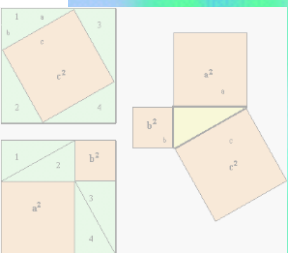
# Pitagorin poučak



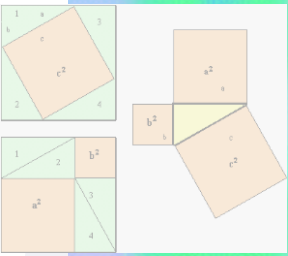
# Pitagorin poučak

- Ako četiri površinom jednaka trokuta iz lijevog kvadrata drugačije složimo, dobit ćemo desni lik.





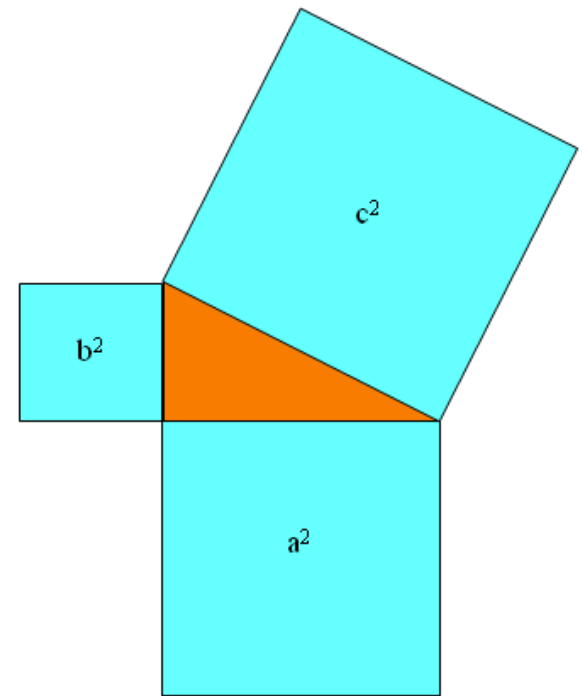
- Na prethodnom prikazu vidimo da je zbroj površina kvadrata nad katetama po površini jednak kvadratu nad hipotenuzom
- Ovu povezanost između duljina kateta i duljine hipotenuze u pravokutnom trokutu nazivamo Pitagorinim poučkom

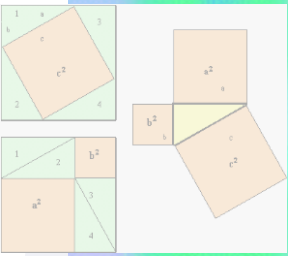


# Pitagorin poučak:

U pravokutnom trokutu površina kvadrata nad hipotenuzom jednaka je zbroju površina kvadrata nad katetama.

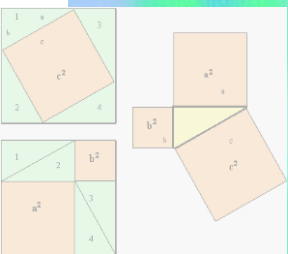
$$c^2 = a^2 + b^2$$





## Napomena:

**Pravokutni trokut kojemu su duljine stranica prirodni brojevi nazivamo Pitagorinim trokutom.**



## Primjer 1.

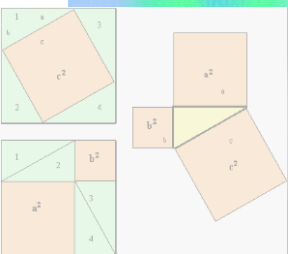
- U pravokutnom trokutu  $ABC$  možemo izračunati duljinu hipotenuze ako su poznate duljine kateta:  $a = 6.5 \text{ cm}$  i  $b = 3.8 \text{ cm}$ .

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

$$c = \sqrt{a^2 + b^2}$$

$$c = \sqrt{6.5^2 + 3.8^2} \text{ cm}$$

$$c = 7.5 \text{ cm}$$



## Primjer 2.

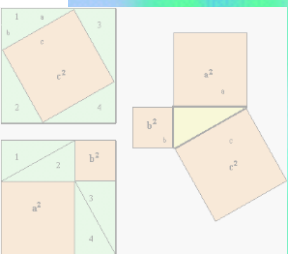
Ako je poznata duljina jedne katete  $a = 4.3$  cm i duljina hipotenuze  $c = 12.1$  cm primjenom Pitagorina poučka možemo izračunati duljinu druge katete.

$$b^2 = c^2 - a^2$$

$$b = \sqrt{c^2 - a^2}$$

$$b = \sqrt{12.1^2 - 4.3^2} \text{ cm}$$

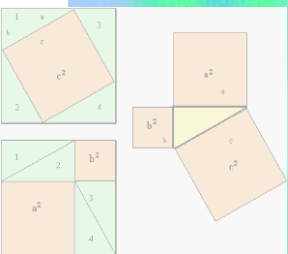
$$b = 11.3 \text{ cm}$$



# Zadaci za vježbu:

- Izračunavanje hipotenuze
- Izračunavanje katete  $a$
- Izračunavanje katete  $b$
- Primjena Pitagorina poučka
- Kraj



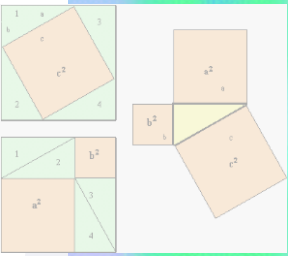


# Izračunavanje hipotenuze

U trokutu  $ABC$  izračunaj kolika je duljina hipotenuze  $c$  ako je  $a = 6.2$  cm i  $b = 8.4$  cm.

- a) 38.44 cm
- b) 2.89 cm
- c) 10.44 cm
- d) 109 cm





# Izračunavanje katete $a$

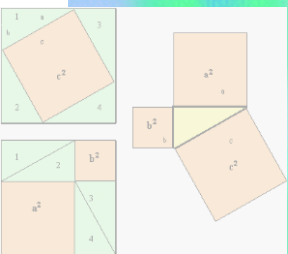
U trokutu  $ABC$  izračunaj kolika je duljina katete  $a$  ako je  $b = 5.3 \text{ cm}$  i  $c = 8.9 \text{ cm}$ .

a) 7.14 cm

b) 28.09 cm

c) 51.12 cm





## Izračunavanje katete $b$

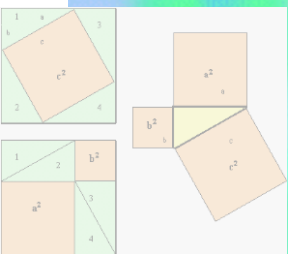
U trokutu  $ABC$  izračunaj kolika je duljina katete  $b$  ako je  $a = 4.2 \text{ cm}$  i  $c = 8.2 \text{ cm}$ .

a) 17.64 cm

b) 7.04 cm

c) 49.6 cm





# Primjena Pitagorina poučka

**Koliku će visinu doseći preklopljene ljestve duljine 2.5 m ako je za stabilnost ljestava na tlu potreban razmak 1.2 m?**

**a) 2.42 m**

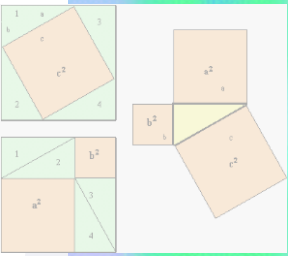
**b) 1.44 m**

**c) 1.58 m**

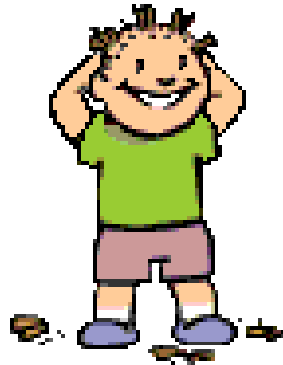


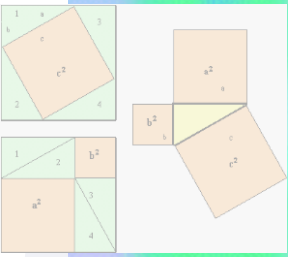
Bravo! Točno si riješio postavljeni zadatak.





Pogrešni rezultat.  
Pokušaj ponovo!





# Zadatak 1.

- **Postupak**

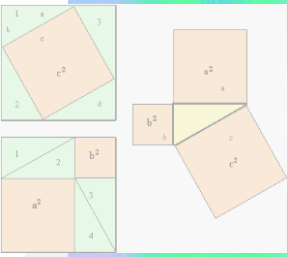
$$c^2 = a^2 + b^2$$

$$c = \sqrt{a^2 + b^2}$$

$$c = \sqrt{6.2^2 + 8.4^2} \text{ cm}$$

$$c = 10.44 \text{ cm}$$





## Zadatak 2.

- **Postupak**

$$a^2 = c^2 - b^2$$

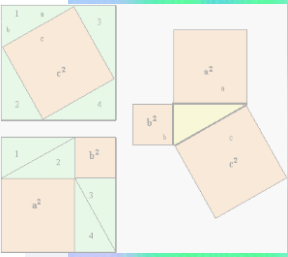
$$a = \sqrt{c^2 - b^2}$$

$$a = \sqrt{8.9^2 - 5.3^2} \text{ cm}$$

$$a = 7.14 \text{ cm}$$







## Zadatak 3.

- **Postupak**

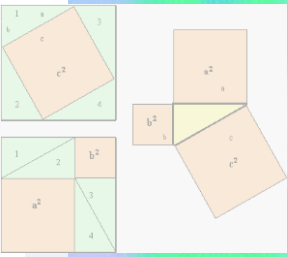
$$b^2 = c^2 - a^2$$

$$b = \sqrt{c^2 - a^2}$$

$$b = \sqrt{8.2^2 - 4.2^2} \text{ cm}$$

$$b = 7.04 \text{ cm}$$





## Zadatak 4.

- **Postupak**

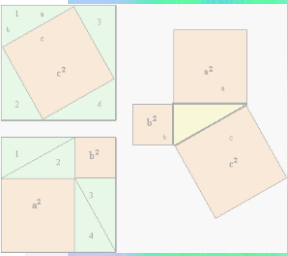
$$b^2 = c^2 - a^2$$

$$b = \sqrt{c^2 - a^2}$$

$$b = \sqrt{2.5^2 - 0.6^2} m$$

$$b = 2.42m$$





Kraj