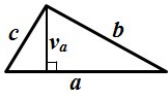


Formule i neka svojstva - trokuti, četverokuti i krug

Trokuti

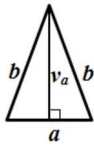
raznostranični trokut



$$O = a + b + c \quad P = \frac{b \cdot v_b}{2}$$

$$P = \frac{a \cdot v_a}{2} \quad P = \frac{c \cdot v_c}{2}$$

jednakokrani trokut



a - osnovica
b - kraci

Kutovi uz osnovicu su jednaki.

$$O = a + 2b$$

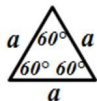
$$P = \frac{a \cdot v_a}{2} \quad P = \frac{b \cdot v_b}{2}$$

jednakostranični trokut

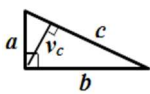


$$O = 3a$$

$$P = \frac{a \cdot v_a}{2}$$



pravokutni trokut



a, b - katete (stranice uz pravi kut)
c - hipotenuza (stranica nasuprot pravom kutu)

$$O = a + b + c$$

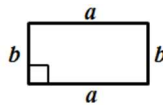
$$P = \frac{a \cdot b}{2}$$

$$P = \frac{c \cdot v_c}{2}$$

Zbroj kutova **trokuta** je (uvijek) **180°**.

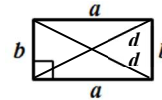
Četverokuti

pravokutnik



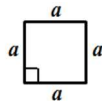
$$O = 2a + 2b$$

$$P = a \cdot b$$



Dijagonale pravokutnika:
- jednako su duge,
- raspolavljaju se.

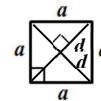
kvadrat



$$O = 4a$$

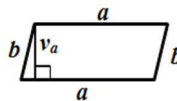
$$P = a^2 \quad (P = a \cdot a)$$

$$P = \frac{d \cdot d}{2}$$



Dijagonale kvadrata:
- jednako su duge,
- raspolavljaju se,
- sijeku se pod pravim kutem.

paralelogram



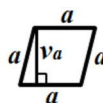
$$O = 2a + 2b$$

$$P = a \cdot v_a$$

$$P = b \cdot v_b$$

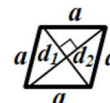
Nausprotni kutovi su sukladni (jednakih veličina), a susjedni suplementarni (zbroj im je 180°).

romb



$$O = 4a$$

$$P = a \cdot v_a$$

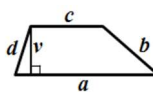


Dijagonale romba:
- raspolavljaju se,
- sijeku se pod pravim kutem.

$$P = \frac{d_1 \cdot d_2}{2}$$

Nausprotni kutovi su sukladni (jednakih veličina), a susjedni suplementarni (zbroj im je 180°).

trapez

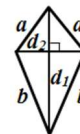


$$O = a + b + c + d$$

$$P = \frac{(a + c) \cdot v}{2}$$

a, c - osnovice (paralelne stranice)
b, d - kraci

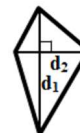
deltoid



$$O = 2a + 2b$$

$$P = \frac{d_1 \cdot d_2}{2}$$

četverokuti s okomitim dijagonalama



$$P = \frac{d_1 \cdot d_2}{2}$$

U četverokute s okomitim dijagonalama spadaju:
- kvadrat,
- romb,
- deltoid
...

Zbroj kutova **četverokuta** je (uvijek) **360°**.

Oznake:

O – opseg,
P – površina,

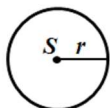
v – visina,
d – duljina dijagonale,

R – radijus (polumjer) opisane kružnice,
r – radijus (polumjer) upisane kružnice

Formule i neka svojstva - trokuti, četverokuti i krug

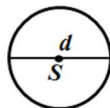
Krug

krug



$$O = 2 r \pi$$

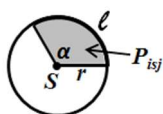
$$P = r^2 \pi$$



$$d = 2r$$

d - promjer
(dijametar)
kruga

kružni isječak



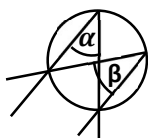
$$l = 2 r \pi \cdot \frac{\alpha}{360^\circ}$$

l - duljina kružnog luka

$$P_{isj} = r^2 \pi \cdot \frac{\alpha}{360^\circ}$$

P_{isj} - površina kružnog isječka

O obodnim i središnjim kutovima



$$\alpha = \beta$$

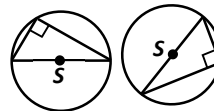
Obodni kutovi nad istim lukom su jednaki.



$$\alpha = 2\beta$$

Središnji kut je 2 puta veći od obodnog kuta nad istim lukom.

Talesov poučak



Svaki obodni kut nad promjerom kruga ima 90° .