

Primjena Pitagorinog poučka na JEDNAKOKRAČNI trokut

1) Izračunaj duljinu **visine** na osnovicu i površinu jednakokračnog trokuta ako je:

a) $a = 32 \text{ cm}$
 $b = 20 \text{ cm}$
 $v, P = ?$

b) $a = 6\sqrt{5} \text{ cm}$
 $b = 6\sqrt{2} \text{ cm}$
 $v, P = ?$

2) Izračunaj duljinu **kraka** i **opseg** jednakokračnog trokuta ako je:

a) $a = 14 \text{ cm}$
 $v = 24 \text{ cm}$
 $b, o = ?$

b) $a = 4\sqrt{3} \text{ cm}$
 $v = 6 \text{ cm}$
 $b, o = ?$

3) Izračunaj duljinu **osnove** jednakokračnog trokuta ako je:

a) $v = 15 \text{ cm}$
 $b = 17 \text{ cm}$
 $a = ?$

b) $b = 10\sqrt{5} \text{ cm}$
 $v = 20 \text{ cm}$
 $a = ?$

4) Izračunaj **opseg** jednakokračnog trokuta površine 60 cm^2 i duljine visine na osnovicu 5 cm .

5) Izračunaj duljinu **kraka** jednakokračnog trokuta površine $8\sqrt{3} \text{ cm}^2$ i duljine visine na osnovicu $2\sqrt{3} \text{ cm}$.

6) Izračunaj **površinu** jednakokračnog trokuta opsega 64 cm kojemu je duljina kraka 25 cm .

7) Duljine osnove i kraka jednakokračnog trokuta odnose se kao $8 : 5$.

Izračunaj **opseg** i **površinu** trokuta ako je duljina visine na osnovicu 12 cm .

8) Duljina kraka jednakokračnog trokuta za 4 je cm dulja od duljine visine na osnovicu.

Izračunaj **opseg** trokuta ako je duljina osnove 16 cm .

Primjena Pitagorinog poučka na JEDNAKOSTRANIČNI trokut

1) Izračunaj duljinu **visine** jednakostraničnog trokuta ako mu je duljina stranice:

a) 10 dm

b) $6\sqrt{3} \text{ cm}$

c) $\sqrt{6} \text{ m}$

d) $5\sqrt{12} \text{ cm}$

2) Izračunaj duljinu **visine** jednakostraničnog trokuta ako mu je opseg $15\sqrt{3} \text{ cm}$.

3) Izračunaj duljinu **stranice** jednakostraničnog trokuta kojemu je duljina visine:

a) 18 dm

b) $13\sqrt{3} \text{ cm}$

c) 30 m

d) $3\sqrt{2} \text{ cm}$

4) Izračunaj **opseg** i **površinu** jednakostraničnog trokuta kojemu je duljina stranice $4\sqrt{6} \text{ cm}$.

5) Izračunaj **površinu** jednakostraničnog trokuta kojemu je duljina stranice 4 cm .

6) Izračunaj duljinu **stranice** jednakostraničnog trokuta čija je površina:

a) $P = 81\sqrt{3} \text{ cm}^2$

b) $P = 50\sqrt{3} \text{ cm}^2$

c) $P = \frac{9}{4}\sqrt{3} \text{ cm}^2$

Primjena Pitagorinog poučka na ROMB

- 1) Izračunaj **opseg** romba duljina dijagonala $e = 40\text{ cm}$ i $f = 30\text{ cm}$.
- 2) Izračunaj **duljinu stranice, opseg i površinu** romba duljina dijagonala $e = 8\sqrt{2}\text{ dm}$ i $f = 6\sqrt{2}\text{ dm}$.
- 3) Izračunaj duljinu druge **dijagonale** romba i njegovu **površinu** ako je $o = 8\sqrt{3}\text{ m}$, $e = 4\sqrt{2}\text{ m}$.
- 4) Izračunaj **opseg** romba površine $48\sqrt{2}\text{ cm}^2$ i duljina dijagonale $e = 8\sqrt{3}\text{ cm}$.
- 5) Duljine dijagonala romba odnose se kao $3 : 2$. Izračunaj **opseg** romba ako je površina romba 48 cm^2 .

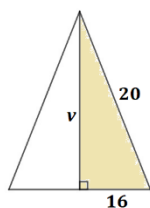
Primjena Pitagorinog poučka na JEDNAKOKRAČNI trapez

- 1) Duljine osnovica jednakokračnog trapeza iznose 31 cm i 7 cm , a duljina kraka 13 cm .
Kolika je duljina visine trapeza? Izračunaj površinu trapeza.
- 2) Izračunaj duljinu **kraka** i **opseg** jednakokračnog trapeza ako su zadane duljina visine 24 mm i duljine osnovica $a = 5.1\text{ cm}$ i $c = 15\text{ mm}$.
- 3) Duljine osnovica jednakokračnog trapeza iznose 43 cm i 21 cm , a njegov je opseg 186 cm .
Izračunaj **površinu** trapeza.
- 4) Jednakokračni trapez ima površinu 525 cm^2 , a osnovice su duge 4.5 dm i 5 cm . Izračunaj mu **opseg**.

Primjena Pitagorinog poučka na JEDNAKOKRAČNI trokut

1) Izračunaj duljinu **visine** na osnovicu i površinu jednakokračnog trokuta ako je:

a) $a = 32 \text{ cm}$
 $b = 20 \text{ cm}$
 $v, P = ?$



$$v^2 = 20^2 - 16^2$$

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

$$v^2 = 400 - 256$$

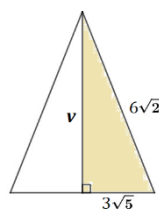
$$P = \frac{32 \cdot 12}{2}$$

$$v^2 = 144 \quad / \sqrt{\quad}$$

$$P = 192 \text{ cm}^2$$

$$v = 12 \text{ cm}$$

b) $a = 6\sqrt{5} \text{ cm}$
 $b = 6\sqrt{2} \text{ cm}$
 $v, P = ?$



$$v^2 = (6\sqrt{2})^2 - (3\sqrt{5})^2$$

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

$$v^2 = 36 \cdot 2 - 9 \cdot 5$$

$$P = \frac{6\sqrt{5} \cdot 3\sqrt{6}}{2}$$

$$v^2 = 72 - 45$$

$$P = 9\sqrt{30} \text{ cm}^2$$

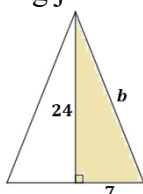
$$v^2 = 27 \quad / \sqrt{\quad}$$

$$v = \sqrt{27} = 3\sqrt{3}$$

$$v = 3\sqrt{3} \text{ cm}$$

2) Izračunaj duljinu **kraka** i opseg jednakokračnog trokuta ako je:

a) $a = 14 \text{ cm}$
 $v = 24 \text{ cm}$
 $b, o = ?$



$$b^2 = v^2 + \left(\frac{a}{2}\right)^2$$

$$o = a + 2b$$

$$b^2 = 24^2 + 7^2$$

$$o = 14 + 2 \cdot 25$$

$$b^2 = 576 + 49$$

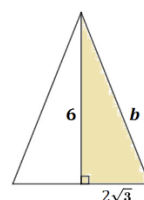
$$o = 14 + 50$$

$$b^2 = 625 \quad / \sqrt{\quad}$$

$$o = 64 \text{ cm}$$

$$b = 25 \text{ cm}$$

b) $a = 4\sqrt{3} \text{ cm}$
 $v = 6 \text{ cm}$
 $b, o = ?$



$$b^2 = v^2 + \left(\frac{a}{2}\right)^2$$

$$o = a + 2b$$

$$b^2 = 6^2 + (2\sqrt{3})^2$$

$$o = 4\sqrt{3} + 2 \cdot 4\sqrt{3}$$

$$b^2 = 36 + 12$$

$$o = 4\sqrt{3} + 8\sqrt{3}$$

$$b^2 = 48 \quad / \sqrt{\quad}$$

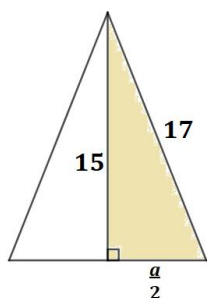
$$o = 12\sqrt{3} \text{ cm}$$

$$b = \sqrt{48} = 4\sqrt{3}$$

$$b = 4\sqrt{3} \text{ cm}$$

3) Izračunaj duljinu **osnovice** jednakokračnog trokuta ako je:

a) $v = 15 \text{ cm}$
 $b = 17 \text{ cm}$
 $a = ?$



$$\left(\frac{a}{2}\right)^2 = 17^2 - 15^2$$

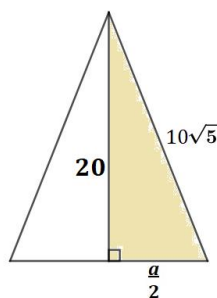
$$\left(\frac{a}{2}\right)^2 = 289 - 225$$

$$\left(\frac{a}{2}\right)^2 = 64 \quad / \sqrt{\quad}$$

$$\frac{a}{2} = 8 \quad / \cdot 2$$

$$a = 16 \text{ cm}$$

b) $b = 10\sqrt{5} \text{ cm}$
 $v = 20 \text{ cm}$
 $a = ?$



$$\left(\frac{a}{2}\right)^2 = (10\sqrt{5})^2 - 20^2$$

$$\left(\frac{a}{2}\right)^2 = 100 \cdot 5 - 400$$

$$\left(\frac{a}{2}\right)^2 = 100 \quad / \sqrt{\quad}$$

$$\frac{a}{2} = 10 \quad / \cdot 2$$

$$a = 20 \text{ cm}$$

- 4) Izračunaj opseg jednakokračnog trokuta površine 60 cm^2 i duljine visine na osnovicu 5 cm .

$$\begin{aligned} v &= 5 \text{ cm} \\ P &= 60 \text{ cm}^2 \\ o &= ? \end{aligned}$$

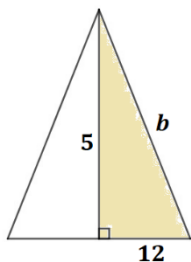
$$P = 60$$

$$\frac{a \cdot v}{2} = 60$$

$$\frac{a \cdot 5}{2} = 60 \quad / : 2$$

$$5a = 120 \quad / : 5$$

$$a = 24 \text{ cm}$$



$$b^2 = v^2 + \left(\frac{a}{2}\right)^2$$

$$b^2 = 12^2 + 5^2$$

$$b^2 = 144 + 25$$

$$b^2 = 169 \quad / \sqrt{}$$

$$b = 13 \text{ cm}$$

$$o = a + 2b$$

$$o = 24 + 2 \cdot 13$$

$$o = 24 + 26$$

$$o = 50 \text{ cm}$$

- 5) Izračunaj duljinu **kraka** jednakokračnog trokuta površine $8\sqrt{3} \text{ cm}^2$ i duljine visine na osnovicu $2\sqrt{3} \text{ cm}$.

$$\begin{aligned} v &= 2\sqrt{3} \text{ cm} \\ P &= 8\sqrt{3} \text{ cm}^2 \\ o &= ? \end{aligned}$$

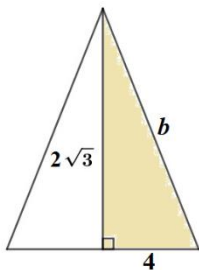
$$P = 8\sqrt{3}$$

$$\frac{a \cdot v}{2} = 8\sqrt{3}$$

$$\frac{a \cdot 2\sqrt{3}}{2} = 8\sqrt{3}$$

$$\sqrt{3}a = 8\sqrt{3} \quad / : \sqrt{3}$$

$$a = 8 \text{ cm}$$



$$b^2 = v^2 + \left(\frac{a}{2}\right)^2$$

$$b^2 = (2\sqrt{3})^2 + 2^2$$

$$b^2 = 4 \cdot 3 + 16$$

$$b^2 = 28 \quad / \sqrt{}$$

$$b = 2\sqrt{7} \text{ cm}$$

$$o = a + 2b$$

$$o = 8 + 2 \cdot 2\sqrt{7}$$

$$o = (8 + 4\sqrt{7}) \text{ cm}$$

- 6) Izračunaj površinu jednakokračnog trokuta opsega 64 cm kojemu je duljina kraka 25 cm .

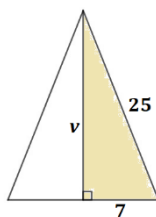
$$\begin{aligned} b &= 25 \text{ cm} \\ o &= 64 \text{ cm} \\ P &= ? \end{aligned}$$

$$o = 64$$

$$a + 2b = 64$$

$$a + 50 = 64$$

$$a = 14 \text{ cm}$$



$$v^2 = 25^2 - 7^2$$

$$v^2 = 625 - 49$$

$$v^2 = 576 \quad / \sqrt{}$$

$$v = 24 \text{ cm}$$

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

$$P = \frac{14 \cdot 24}{2}$$

$$P = 7 \cdot 24$$

$$P = 168 \text{ cm}^2$$

- 7) Duljine osnovice i kraka jednakokračnog trokuta odnose se kao $8 : 5$.

Izračunaj opseg i površinu trokuta ako je duljina visine na osnovicu 12 cm .

$$\begin{aligned} v &= 12 \text{ cm} \\ a : b &= 8 : 5 \\ o, P &= ? \end{aligned}$$

$\Rightarrow$

$$a = 8k = 32 \text{ cm}$$

$$b = 5k = 20 \text{ cm}$$

$$o = a + 2b$$

$$o = 32 + 2 \cdot 20$$

$$o = 32 + 40$$

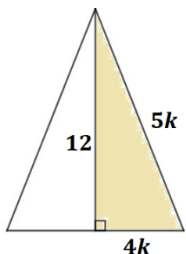
$$o = 72 \text{ cm}$$

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

$$P = \frac{32 \cdot 12}{2}$$

$$P = 16 \cdot 12$$

$$P = 192 \text{ cm}^2$$



$$25k^2 = 144 + 16k^2$$

$$9k^2 = 144 \quad / : 9$$

$$k^2 = 16 \quad / \sqrt{}$$

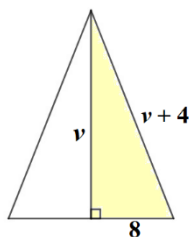
$$k = 4$$

- 8) Duljina kraka jednakokraknog trokuta za 4 je cm dulja od duljine visine na osnovicu.
Izračunaj **opseg** trokuta ako je duljina osnovice 16 cm .

$$a = 16\text{ cm}$$

$$b = v + 4 \Rightarrow \boxed{b = 10\text{ cm}}$$

$$o = ?$$



$$(v + 4)^2 = v^2 + 8^2$$

$$(v + 4)(v + 4) = v^2 + 64$$

$$v^2 + 4v + 4v + 16 = v^2 + 64$$

$$8v = 48 \quad / : 8$$

$$\boxed{v = 6\text{ cm}}$$

$$o = a + 2b$$

$$o = 16 + 2 \cdot 10$$

$$o = 16 + 20$$

$$\boxed{o = 36\text{ cm}}$$

Primjena Pitagorinog poučka na JEDNAKOSTRANIČNI trokut

- 1) Izračunaj duljinu visine jednakostraničnog trokuta ako mu je duljina stranice:

a) $\frac{a = 10\text{ dm}}{v = ?}$

$$v = \frac{a\sqrt{3}}{2}$$

$$v = \frac{10\sqrt{3}}{2}$$

$$\boxed{v = 5\sqrt{3}\text{ dm}}$$

b) $\frac{a = 6\sqrt{3}\text{ cm}}{v = ?}$

$$v = \frac{a\sqrt{3}}{2}$$

$$v = \frac{6^3 \sqrt{3} \cdot \sqrt{3}}{2 \cdot 1}$$

$$v = 3 \cdot 3$$

$$\boxed{v = 9\text{ cm}}$$

c) $\frac{a = \sqrt{6}\text{ m}}{v = ?}$

$$v = \frac{a\sqrt{3}}{2}$$

$$v = \frac{\sqrt{6} \cdot \sqrt{3}}{2}$$

$$v = \frac{\sqrt{18}}{2}$$

$$\boxed{v = \frac{3\sqrt{2}}{2}\text{ m}}$$

d) $\frac{a = 5\sqrt{12}\text{ m} = 10\sqrt{3}\text{ m}}{v = ?}$

$$v = \frac{a\sqrt{3}}{2}$$

$$v = \frac{10\sqrt{3} \cdot \sqrt{3}}{2}$$

$$v = 5 \cdot 3$$

$$\boxed{v = 15\text{ m}}$$

- 2) Izračunaj duljinu visine jednakostraničnog trokuta ako mu je opseg $15\sqrt{3}\text{ cm}$.

$$o = 15\sqrt{3}\text{ cm}$$

$$v = ?$$

$$\textcircled{o} = 15\sqrt{3}$$

$$3a = 15\sqrt{3} \quad / : 3$$

$$\boxed{a = 5\sqrt{3}\text{ cm}}$$

$$v = \frac{a\sqrt{3}}{2}$$

$$v = \frac{5\sqrt{3} \cdot \sqrt{3}}{2}$$

$$\boxed{v = \frac{15}{2}\text{ cm}}$$

- 3) Izračunaj duljinu stranice jednakostraničnog trokuta kojemu je duljina visine:

a) $\frac{v = 18\text{ cm}}{a = ?}$

$$\textcircled{v} = 18$$

$$\frac{a\sqrt{3}}{2} = 18 \quad / \cdot 2$$

$$a\sqrt{3} = 36 \quad / : \sqrt{3}$$

$$a = \frac{36}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$$

$$a = \frac{36\sqrt{3}}{3}$$

$$\boxed{a = 12\sqrt{3}\text{ cm}}$$

b) $\frac{v = 13\sqrt{3}\text{ cm}}{a = ?}$

$$\textcircled{v} = 13\sqrt{3}$$

$$\frac{a\sqrt{3}}{2} = 13\sqrt{3} \quad / \cdot 2$$

$$a\sqrt{3} = 26\sqrt{3} \quad / : \sqrt{3}$$

$$\boxed{a = 26\text{ cm}}$$

c) $\frac{v = 30\text{ m}}{a = ?}$

$$\textcircled{v} = 30$$

$$\frac{a\sqrt{3}}{2} = 30 \quad / \cdot 2$$

$$a\sqrt{3} = 60 \quad / : \sqrt{3}$$

$$a = \frac{60}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$$

$$a = \frac{60\sqrt{3}}{3}$$

$$\boxed{a = 20\sqrt{3}\text{ m}}$$

d) $\frac{v = 3\sqrt{2}\text{ cm}}{a = ?}$

$$\textcircled{v} = 3\sqrt{2}$$

$$\frac{a\sqrt{3}}{2} = 3\sqrt{2} \quad / \cdot 2$$

$$a\sqrt{3} = 6\sqrt{2} \quad / : \sqrt{3}$$

$$a = \frac{6\sqrt{2}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$$

$$a = \frac{6\sqrt{6}}{3}$$

$$\boxed{a = 2\sqrt{6}\text{ cm}}$$

4) Izračunaj opseg i površinu jednakostraničnog trokuta kojemu je duljina stranice $4\sqrt{6}$ cm.

$$a = 4\sqrt{6} \text{ cm}$$

$$o = 3a$$

$$v = \frac{a\sqrt{3}}{2}$$

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

$$o, P = ?$$

$$o = 3 \cdot 4\sqrt{6}$$

$$v = \frac{4\sqrt{6} \cdot \sqrt{3}}{2}$$

$$P = \frac{4\sqrt{6} \cdot 6\sqrt{2}}{2}$$

$$o = 12\sqrt{6} \text{ cm}$$

$$v = 2\sqrt{18}$$

$$P = 12\sqrt{12}$$

$$v = 2\sqrt{9 \cdot 2}$$

$$P = 12\sqrt{4 \cdot 3}$$

$$v = 6\sqrt{2} \text{ cm}$$

$$P = 24\sqrt{3} \text{ cm}^2$$

Ili površina pomoću formule:

$$P = \frac{a^2 \sqrt{3}}{4}$$

5) Izračunaj površinu jednakostraničnog trokuta kojemu je duljina stranice 4 cm.

$$a = 4 \text{ cm}$$

$$P = \frac{a^2 \sqrt{3}}{4}$$

$$P = ?$$

$$P = \frac{4^2 \sqrt{3}}{4}$$

$$P = \frac{16 \sqrt{3}}{4}$$

$$P = 4\sqrt{3} \text{ cm}^2$$

6) Izračunaj duljinu stranice jednakostraničnog trokuta čija je površina:

a) $P = 81\sqrt{3} \text{ cm}^2$

b) $P = 50\sqrt{3} \text{ cm}^2$

c) $P = \frac{9}{4}\sqrt{3} \text{ cm}^2$

a) $\textcircled{P} = 81\sqrt{3}$

b) $\textcircled{P} = 50\sqrt{3}$

c) $\textcircled{P} = \frac{9}{4}\sqrt{3}$

$$\frac{a^2 \sqrt{3}}{4} = 81\sqrt{3} \quad / \cdot 4$$

$$\frac{a^2 \sqrt{3}}{4} = 50\sqrt{3} \quad / \cdot 4$$

$$\frac{a^2 \sqrt{3}}{4} = \frac{9}{4}\sqrt{3} \quad / \cdot 4$$

$$a^2 \sqrt{3} = 324\sqrt{3} \quad / : \sqrt{3}$$

$$a^2 \sqrt{3} = 200\sqrt{3} \quad / : \sqrt{3}$$

$$a^2 \sqrt{3} = 9\sqrt{3} \quad / : \sqrt{3}$$

$$a^2 = 324 \quad / \sqrt{}$$

$$a^2 = 200 \quad / \sqrt{}$$

$$a^2 = 9 \quad / \sqrt{}$$

$$a = 18 \text{ cm}$$

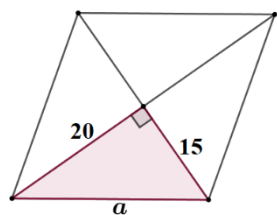
$$a = 10\sqrt{2} \text{ cm}$$

$$a = 3 \text{ cm}$$

Primjena Pitagorinog poučka na ROMB

1) Izračunaj **opseg** romba duljina dijagonala $e = 40 \text{ cm}$ i $f = 30 \text{ cm}$.

$$\begin{array}{l} e = 40 \text{ cm} \\ f = 30 \text{ cm} \\ \hline a, o, P = ? \end{array}$$



$$a^2 = 20^2 + 15^2$$

$$a^2 = 400 + 225$$

$$a^2 = 625 \quad / \sqrt{\quad}$$

$$a = 25 \text{ cm}$$

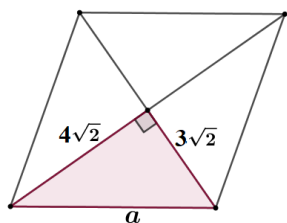
$$o = 4a$$

$$o = 4 \cdot 25$$

$$o = 100 \text{ cm}$$

2) Izračunaj **duljinu stranice, opseg i površinu** romba duljina dijagonala $e = 8\sqrt{2} \text{ dm}$ i $f = 6\sqrt{2} \text{ dm}$.

$$\begin{array}{l} e = 8\sqrt{2} \text{ dm} \\ f = 6\sqrt{2} \text{ dm} \\ \hline a, o, P = ? \end{array}$$



$$a^2 = (4\sqrt{2})^2 + (3\sqrt{2})^2$$

$$a^2 = 16 \cdot 2 + 9 \cdot 2$$

$$a^2 = 32 + 18$$

$$a^2 = 50 \quad / \sqrt{\quad}$$

$$a = 5\sqrt{2} \text{ dm}$$

$$o = 4a$$

$$o = 4 \cdot 5\sqrt{2}$$

$$o = 20\sqrt{2} \text{ dm}$$

$$P = \frac{e \cdot f}{2}$$

$$P = \frac{8\sqrt{2} \cdot 6\sqrt{2}}{2}$$

$$P = 24 \cdot 2$$

$$P = 48 \text{ dm}^2$$

3) Izračunaj duljinu druge **dijagonale** romba i njegovu **površinu** ako je $o = 8\sqrt{3} \text{ m}$, $e = 4\sqrt{2} \text{ m}$.

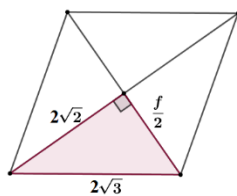
$$o = 8\sqrt{3} \text{ m}$$

$$\textcircled{o} = 8\sqrt{3}$$

$$e = 4\sqrt{2} \text{ m}$$

$$4a = 8\sqrt{3} \quad / : 4$$

$$a = 2\sqrt{3} \text{ m}$$



$$\left(\frac{f}{2}\right)^2 = (2\sqrt{3})^2 - (2\sqrt{2})^2$$

$$\left(\frac{f}{2}\right)^2 = 4 \cdot 3 - 4 \cdot 2$$

$$\left(\frac{f}{2}\right)^2 = 4 \quad / \sqrt{\quad}$$

$$\frac{f}{2} = 2 \quad / \cdot 2$$

$$f = 4 \text{ m}$$

$$P = \frac{e \cdot f}{2}$$

$$P = \frac{4\sqrt{2} \cdot 4}{2}$$

$$P = 8\sqrt{2} \text{ m}^2$$

4) Izračunaj **opseg** romba površine $48\sqrt{2} \text{ cm}^2$ i duljina dijagonale $e = 8\sqrt{3} \text{ cm}$.

$$P = 48\sqrt{2} \text{ cm}^2$$

$$e = 8\sqrt{3} \text{ cm}$$

$$o = ?$$

$$\textcircled{P} = 48\sqrt{2}$$

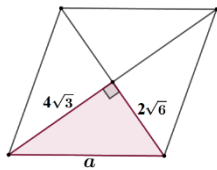
$$\frac{4 \cdot 8\sqrt{3} \cdot f}{2 \cdot 1} = 48\sqrt{2}$$

$$4\sqrt{3} f = 48\sqrt{2} \quad / : 4\sqrt{3}$$

$$f = \frac{12\sqrt{2}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$$

$$f = \frac{12\sqrt{6}}{3}$$

$$f = 4\sqrt{6} \text{ cm}$$



$$a^2 = (4\sqrt{3})^2 + (2\sqrt{6})^2$$

$$a^2 = 16 \cdot 3 + 4 \cdot 6$$

$$a^2 = 48 + 24$$

$$a^2 = 72 \quad / \sqrt{}$$

$$a = \sqrt{36 \cdot 2}$$

$$a = 6\sqrt{2} \text{ cm}$$

$$o = 4a$$

$$o = 4 \cdot 6\sqrt{2}$$

$$o = 24\sqrt{2} \text{ cm}$$

$$72 \mid 2$$

$$36 \mid 36$$

$$1$$

5) Duljine dijagonala romba odnose se kao 3 : 2. Izračunaj **opseg** romba ako je površina romba 48 cm^2 .

$$e : f = 3 : 2 \quad \Rightarrow \quad e = 3k = 12 \text{ cm}$$

$$f = 2k = 8 \text{ cm}$$

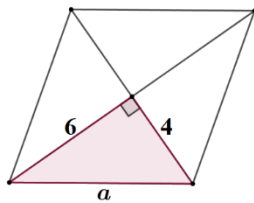
$$\textcircled{P} = 48$$

$$\frac{3k \cdot 2 \cdot 1 k}{2 \cdot 1} = 48$$

$$3k^2 = 48 \quad / : 3$$

$$k^2 = 16 \quad / \sqrt{}$$

$$k = 4$$



$$a^2 = 6^2 + 4^2$$

$$a^2 = 36 + 16$$

$$a^2 = 52 \quad / \sqrt{}$$

$$a = 2\sqrt{13} \text{ cm}$$

$$52 \mid 2$$

$$26 \mid 2$$

$$13 \mid 13$$

$$1$$

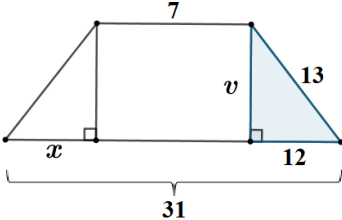
$$o = 4a$$

$$o = 4 \cdot 2\sqrt{13}$$

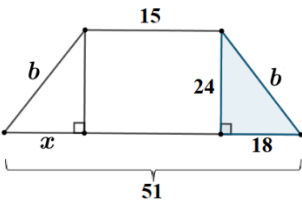
$$o = 8\sqrt{13} \text{ cm}$$

Primjena Pitagorinog poučka na JEDNAKOKRAČNI trapez

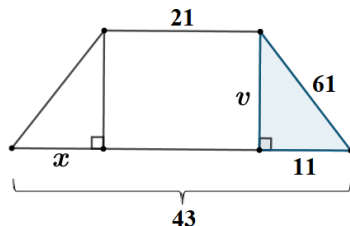
- 1) Duljine osnovica jednakokračnog trapeza iznose 31 cm i 7 cm, a duljina kraka 13 cm.
Kolika je duljina visine trapeza? Izračunaj površinu trapeza.

$a = 31 \text{ cm}$ $c = 7 \text{ cm}$ $b = 13 \text{ cm}$ $v, P = ?$	$x = \frac{a-c}{2}$ $x = \frac{31-7}{2}$ $x = \frac{24}{2}$ $x = 12 \text{ cm}$		$v^2 = 13^2 - 12^2$ $v^2 = 169 - 144$ $v^2 = 25 \quad / \sqrt{\quad}$ $v = 5 \text{ cm}$	$P = \frac{(a+c)}{2} \cdot v$ $P = \frac{(31+7)}{2} \cdot 5$ $P = \frac{38}{2} \cdot 5$ $P = 19 \cdot 5$ $P = 95 \text{ cm}^2$
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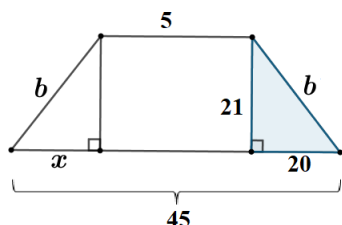
- 2) Izračunaj duljinu **kraka** i **opseg** jednakokračnog trapeza ako su zadane duljina visine 24 mm i duljine osnovica $a = 5.1 \text{ cm}$ i $c = 15 \text{ mm}$.

$a = 51 \text{ mm}$ $c = 15 \text{ mm}$ $v = 24 \text{ mm}$ $b = ?$	$x = \frac{a-c}{2}$ $x = \frac{51-15}{2}$ $x = \frac{36}{2}$ $x = 18 \text{ mm}$		$b^2 = 24^2 + 18^2$ $b^2 = 576 + 324$ $b^2 = 900 \quad / \sqrt{\quad}$ $b = 30 \text{ mm}$	$o = 51 + 2 \cdot 30 + 15$ $o = 51 + 60 + 15$ $o = 126 \text{ mm}$
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- 3) Duljine osnovica jednakokračnog trapeza iznose 43 cm i 21 cm, a njegov je opseg 186 cm.
Izračunaj **površinu** trapeza.

$a = 43 \text{ cm}$ $c = 21 \text{ cm}$ $o = 186 \text{ cm}$ $P = ?$				
$\textcircled{o} = 186$ $43 + 21 + 2b = 186$ $2b = 122 \quad / : 2$ $b = 61 \text{ cm}$	$x = \frac{a-c}{2}$ $x = \frac{43-21}{2}$ $x = \frac{22}{2}$ $x = 11 \text{ cm}$	$v^2 = 61^2 - 11^2$ $v^2 = 3721 - 121$ $v^2 = 3600 \quad / \sqrt{\quad}$ $v = 60 \text{ cm}$	$P = \frac{(a+c)}{2} \cdot v$ $P = \frac{(43+21)}{2} \cdot 60$ $P = 64 \cdot 30$ $P = 1\,920 \text{ cm}^2$	

- 4) Jednakokračni trapez ima površinu 525 cm^2 , a osnovice su duge 4.5 dm i 5 cm. Izračunaj mu **opseg**.

$P = 525 \text{ cm}^2$ $a = 45 \text{ cm}$ $c = 5 \text{ cm}$ $o = ?$				
$\textcircled{P} = 525$ $\frac{(a+c)}{2} \cdot v = 525$ $\frac{(45+5)}{2} \cdot v = 525$ $\frac{50}{2} \cdot v = 525$ $25v = 525 \quad / : 25$ $v = 21 \text{ cm}$	$x = \frac{a-c}{2}$ $x = \frac{45-5}{2}$ $x = \frac{40}{2}$ $x = 20 \text{ cm}$	$b^2 = 20^2 + 21^2$ $b^2 = 400 + 441$ $b^2 = 841 \quad / \sqrt{\quad}$ $b = 29 \text{ cm}$	$o = 45 + 2 \cdot 29 + 5$ $o = 50 + 58$ $o = 108 \text{ cm}$	