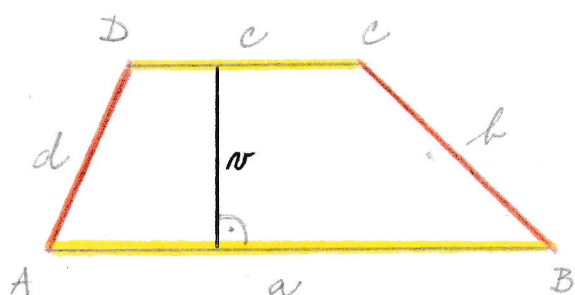


Lichoběžníky



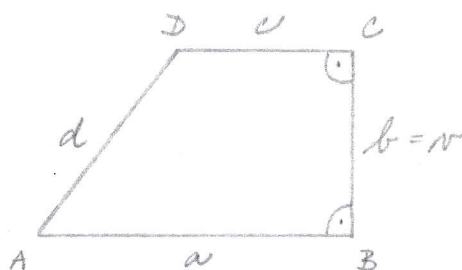
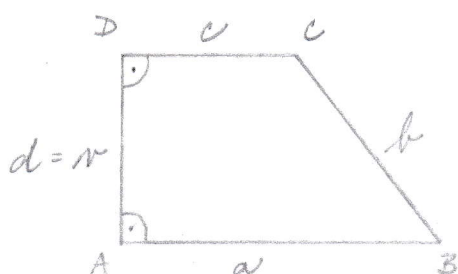
kákladny = strany a, c
- platí: $a \parallel c$

ramena = strany b, d
- platí: $b \neq d$

výška r = vzdálenost kákladen lichoběžníku

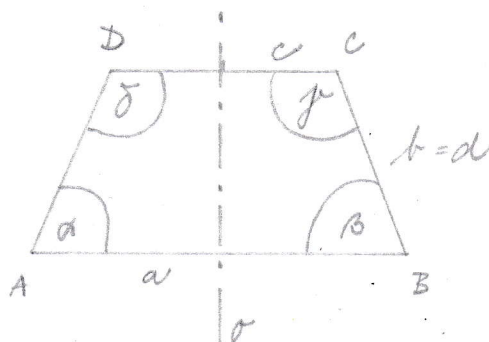
Druhy lichoběžníků:

- pravoúhlý - jedno rameno je kolmé k kákladnám

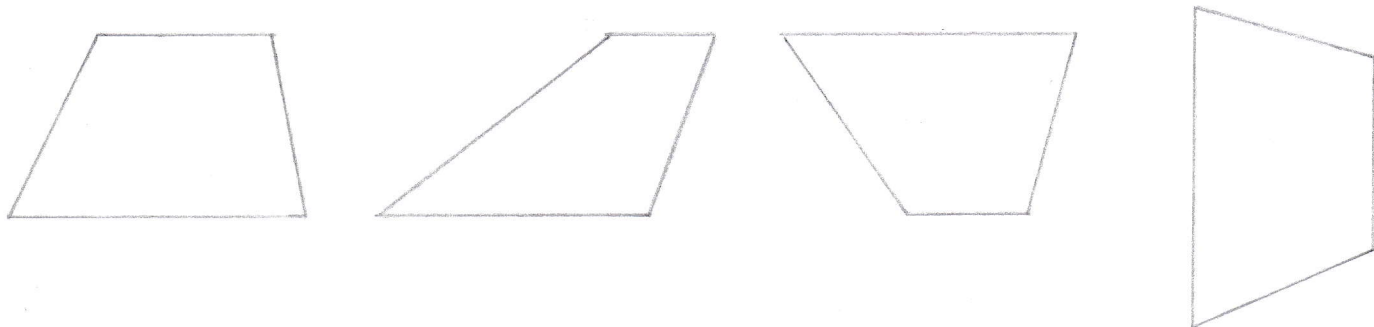


- rovnoramenný

- ramena jsou stejně dlouhá
- je osově souměrný
- platí: $\alpha = \beta, \gamma = \delta$



- nepravidelný - všechny ostatní strany lichoběžníků



DŮ: nč. 3, str. 59 / cv. 2, 3, 4

Obvod a obsah lichoběžníků

<u>obvod</u> : $\sigma = a + b + c + d$	<u>obsah</u> : $S = \frac{(a+c) \cdot h}{2}$
---	--

Pr. Vypočítej obvod a obsah lichoběžníků, kde:

a) $a = 5 \text{ cm}$

$\sigma = ?$

$b = 4 \text{ cm}$

$S = ?$

$S = \frac{(a+c) \cdot h}{2}$

$c = 2 \text{ cm}$

$\sigma = a + b + c + d$

$S = \frac{(5+2) \cdot 3}{2}$

$d = 3,5 \text{ cm}$

$\sigma = 5 + 4 + 2 + 3,5$

$S = 10,5 \text{ cm}^2$

$h = 3 \text{ cm}$

$\sigma = 14,5 \text{ cm}$

b) $a = 5 \text{ cm}$

$\sigma = ?$

$b = 6 \text{ cm}$

$S = ?$

$c = 3 \text{ cm}$

$$d = 1 \text{ cm}$$

$$\underline{r = 2 \text{ cm}}$$

c) $a = 6 \text{ cm}$

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

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

$$\underline{d = r = 4 \text{ cm}}$$

$$r = ?$$

$$\underline{S = ?}$$

$$r = a + b + c + d$$

$$r = 6 + 5 + 3 + 4$$

$$\underline{\underline{r = 19 \text{ cm}}}$$

$$S = \frac{(a+c) \cdot r}{2}$$

$$S = \frac{(6+3) \cdot 4}{2}$$

$$\underline{\underline{S = 18 \text{ cm}^2}}$$

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

$$b = r = 2 \text{ cm}$$

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

$$\underline{d = 3,5 \text{ cm}}$$

$$r = ?$$

$$\underline{S = ?}$$

e) $r = 12 \text{ cm}$

$$S = 6 \text{ cm}^2$$

$$b = d = 3 \text{ cm}$$

$$c = 1 \text{ cm}$$

$$a = ?$$

$$\underline{r = ?}$$

$$r = a + b + c + d$$

$$12 = a + 3 + 1 + 3$$

$$12 = a + 7$$

$$a = 12 - 7$$

$$\underline{\underline{a = 5 \text{ cm}}}$$

$$S = \frac{(a+c) \cdot r}{2}$$

$$6 = \frac{(5+1) \cdot r}{2}$$

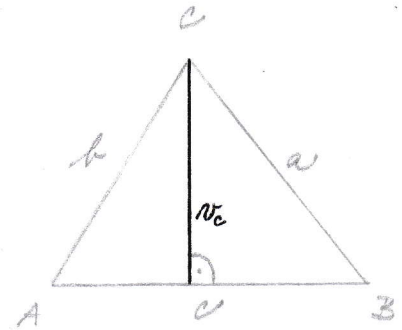
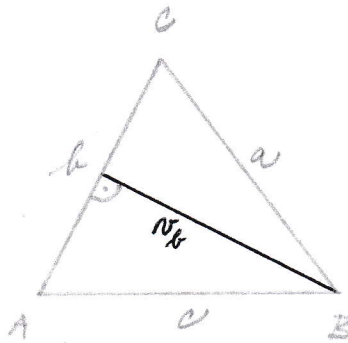
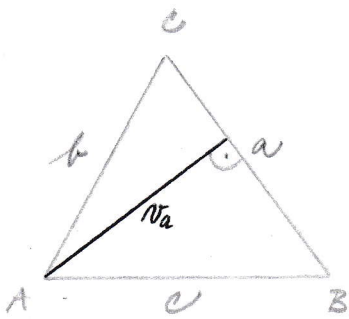
$$6 = 3 \cdot r$$

$$r = 6 : 3$$

$$\underline{\underline{r = 2 \text{ cm}}}$$

DŮ: uč. 3, str. 63 / cv. 3

Trojúhelníky



Obvod a obsah trojúhelníku

obvod: $v = a + b + c$

obsah: $S = \frac{a \cdot n_a}{2}$, $S = \frac{b \cdot n_b}{2}$, $S = \frac{c \cdot n_c}{2}$

Pr. Vypočítej obvod a obsah trojúhelníku, kde:

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

$v = ?$

$b = 2 \text{ cm}$

$S = ?$

$S = \frac{a \cdot n_a}{2}$

$c = 4 \text{ cm}$

$v = a + b + c$

$S = \frac{3 \cdot 1}{2}$

$n_a = 1 \text{ cm}$

$v = 3 + 2 + 4$

$v = 9 \text{ cm}$

$S = 1,5 \text{ cm}^2$

$$b) \quad a = 3 \text{ cm}$$

$$r = ?$$

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

$$S = ?$$

$$c = 5 \text{ cm}$$

$$\underline{r_h = 2 \text{ cm}}$$

$$S = \frac{b \cdot r_h}{2}$$

$$S = \frac{4 \cdot 2}{2}$$

$$\underline{\underline{S = 4 \text{ cm}^2}}$$

$$c) \quad a = 5 \text{ cm}$$

$$r = ?$$

$$b = 6 \text{ cm}$$

$$S = ?$$

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

$$\underline{r_c = 4 \text{ cm}}$$

$$d) \quad x = 7 \text{ cm}$$

$$r = ?$$

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

$$S = ?$$

$$z = 5 \text{ cm}$$

$$\underline{r_{xy} = 6 \text{ cm}}$$

$$r = x + y + z$$

$$r = 7 + 4 + 5$$

$$\underline{\underline{r = 16 \text{ cm}}}$$

$$S = \frac{y \cdot r_{xy}}{2}$$

$$S = \frac{4 \cdot 6}{2}$$

$$\underline{\underline{S = 12 \text{ cm}^2}}$$

DŮ: uč. 3, str. 56 / cv. 1