

NALOGE O POVRŠINI STOŽCA

1. Stožec

$$O = 62,8 \text{ cm}$$

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

$$p_l = ?$$

$$p_l = \pi r s$$

$$p_l = 3,14 \cdot 10 \cdot 26$$

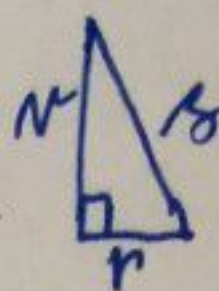
$$p_l = 260 \cdot 3,14$$

$$p_l = 816,4 \text{ cm}^2$$

$$2\pi r = O$$

$$6,28r = 62,8 / 6,28$$

$$r = 10 \text{ cm}$$



$$s^2 = N^2 + r^2$$

$$s^2 = 24^2 + 10^2$$

$$s^2 = 576 + 100$$

$$s = \sqrt{676}$$

$$s = 26 \text{ cm}$$

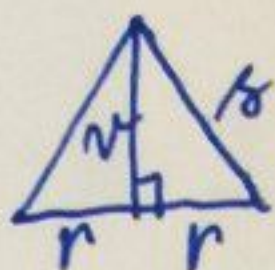
O: Kartonska pola velikosti 700 cm^2 ne zadošča za izdelavo klobuka.

2. Stožec

$$O = 36\pi \text{ cm}^2$$

$$p_{os} = 48 \text{ cm}^2$$

$$P = ?$$



$$\frac{2r \cdot N}{2} = p_{os}$$

$$r \cdot N = p_{os}$$

$$6N = 48 / 6$$

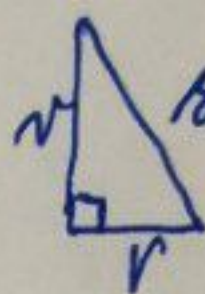
$$N = 8 \text{ cm}$$

$$\pi r^2 = O$$

$$\pi r^2 = 36\pi / \pi$$

$$r = \sqrt{36}$$

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



$$s^2 = N^2 + r^2$$

$$s^2 = 8^2 + 6^2$$

$$s = \sqrt{64 + 36}$$

$$s = \sqrt{100}$$

$$s = 10 \text{ cm}$$

$$P = \pi r(r + s)$$

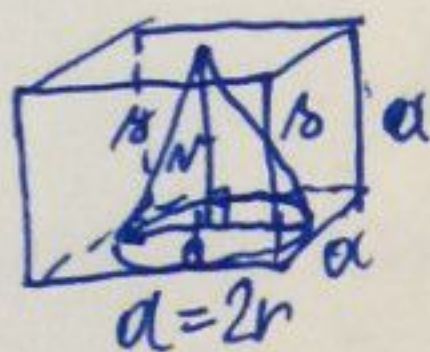
$$P = 3,14 \cdot 6 \cdot (6 + 10)$$

$$P = 18,84 \cdot 16$$

$$P = 301,44 \text{ cm}^2$$

O: Površina stožca meri $301,44 \text{ cm}^2$.

3.



$$r = \frac{a}{2}$$

$$r = \frac{6}{2}$$

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

$$N = d = 6 \text{ cm}$$

$$p_{os} = \frac{2r \cdot N}{2}$$

$$p_{os} = r \cdot N$$

$$p_{os} = 3 \cdot 6$$

$$p_{os} = 18 \text{ cm}^2$$

O: Površina osnega preseka stožca meri 18 cm^2 .

5. Stožec

$$p_l = 5 \cdot O \Rightarrow \pi r s = 5 \cdot \pi r^2 / \pi r$$

$$N = 106 \text{ cm}$$

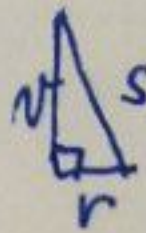
$$r = ?$$

$$P = ?$$

$$s = 5r$$

$$s = 5 \cdot 21,6$$

$$s = 108 \text{ cm}$$



$$s^2 = N^2 + r^2$$

$$(5r)^2 - 106^2 = r^2$$

$$25r^2 - 11236 = r^2$$

$$24r^2 = 11236 / 24$$

$$r = \sqrt{468,17}$$

$$r = 21,6 \text{ cm}$$

$$P = \pi r(r + s)$$

$$P = 3,14 \cdot 21,6 (21,6 + 108)$$

$$P = 67,824 \cdot 129,6$$

$$P = 8790 \text{ cm}^2$$

O: Polmer stožca meri $21,6 \text{ cm}$, površina pa 8790 cm^2

6.

Stožec

$$s:r=5:3 \Rightarrow s=5 \cdot t = 5 \cdot 5 = 25 \text{ cm}$$

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

$$P=?$$

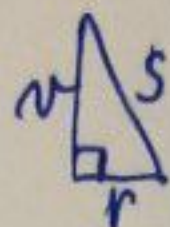
$$P = \pi r(r+s)$$

$$P = 3,14 \cdot 15 \cdot (15+25)$$

$$P = 47,1 \cdot 40$$

$$P = 1884 \text{ cm}^2$$

O: Površina stožca meri 1884 cm^2 .



$$s^2 - r^2 = N^2$$

$$(5t)^2 - (3t)^2 = 20^2$$

$$25t^2 - 9t^2 = 400$$

$$16t^2 = 400 \quad | :16$$

$$t^2 = 25 \Rightarrow t = \sqrt{25}$$

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

4.

Stožec A:

$$s = 1,5 \text{ cm}$$

$$\alpha = 210^\circ$$

$$r=?$$

$$\pi r s = p l$$

$$3,14 \cdot r \cdot 1,5 = 4,12$$

$$4,71 r = 4,12 \quad | :4,71$$

$$r \doteq 0,87 \text{ cm}$$

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

$$p l = \frac{\pi \cdot 2,25 \cdot 210^\circ}{360^\circ} = 12$$

$$p l = \frac{3,14 \cdot 15,75}{12}$$

$$p l = \frac{49,455}{12}$$

$$p l \doteq 4,12 \text{ cm}^2$$

Stožec B:

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

$$\alpha = 300^\circ$$

$$r=?$$

$$\pi r s = p l$$

$$3,14 \cdot r \cdot 1 = 2,62$$

$$3,14 r = 2,62 \quad | :3,14$$

$$r \doteq 0,83 \text{ cm}$$

$$p l = \frac{\pi s^2 \alpha}{360^\circ} = \frac{3,14 \cdot 1 \cdot 300^\circ}{360^\circ} = 5$$

$$p l = \frac{3,14 \cdot 5}{6} = \frac{15,7}{6}$$

$$p l \doteq 2,62 \text{ cm}^2$$

O: Večji polmer osnovne ploskve ima stožec A.

7. Enakostranični stožec:

$$P_{os} = \sqrt{3} \text{ dm}^2$$

$$P=?$$

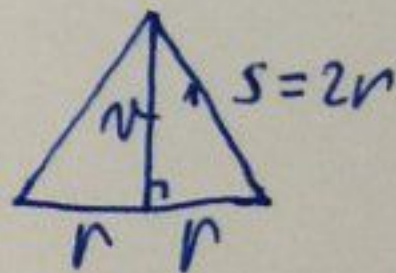
O: Površina meri $814,7 \text{ cm}^2$.

$$P = 3\pi r^2$$

$$P = 3 \cdot 3,14 \cdot 9,3^2$$

$$P = 9,42 \cdot 86,49$$

$$P \doteq 814,7 \text{ cm}^2$$



$$P_{os} = \frac{2r \cdot 2r}{2} = \frac{4r^2}{2} = 2r^2$$

$$2r^2 = \sqrt{3} \quad | :2$$

$$r^2 \doteq 0,866$$

$$r = \sqrt{0,866}$$

$$r \doteq 0,93 \text{ dm} = 9,3 \text{ cm}$$

8. Stožec

$$1 \text{ strešnik} : 4 \text{ dm}^2$$

$$1 \text{ m}^2 \text{ stane } 47,50 \text{ €}$$

$$d = 16 \text{ m} \Rightarrow r = 8 \text{ m}$$

$$s = 17 \text{ m}$$

$$p l = ?$$

$$p l = \pi r s$$

$$p l = 3,14 \cdot 8 \cdot 17$$

$$p l = 427,04 \text{ m}^2 = 42704 \text{ dm}^2$$

Število strešnikov:

$$42704 \text{ dm}^2 : 4 \text{ dm}^2 = 10676 \text{ strešnikov}$$

Cena:

$$427,04 \text{ m}^2 \cdot 47,50 \frac{\text{€}}{\text{m}^2} = 20284,40 \text{ €}$$

O: Potrebujemo 10676 strešnikov. Streha bo stala 20284,40 €.