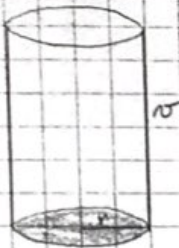


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- 1) Višina valja je za 10 cm večja od polmera, površina valja pa meri $144\pi \text{ cm}^2$.
Izračunajte prostornino valja .
- 2) Izračunajte P in V pravilne 4- strane piramide , če meri osnovni rob 15 cm ,stranski rob pa 30 cm !
- 3) Diagonala paralelograma meri 7 cm in oklepa s stranicama kot 33° in kot 46° .Izračunajte Stranici paralelograma in njegovo ploščino.
- 4) Enakokrak trapez (c = 4 cm, a =16 cm, v= 8 cm) se zavrti za 360° okoli krajše osnovnice.
Izračunajte P in V vrtenine !

~~A # t~~

1.



$$P = 144 \pi \text{ cm}^2$$

$$n = r + 10$$

✓

$$P = 2 \cdot S_0 + S_{pl}$$

$$P = 2 \cdot \pi r^2 + 2\pi r \cdot n$$

$$144\pi = 2\pi r^2 + 2\pi r \cdot (r + 10)$$

$$144\pi = 2\pi r^2 + 2\pi r^2 + 20\pi r$$

$$144\pi = \pi (2r^2 + 2r^2 + 20r)$$

$$4r^2 + 20r - 144 = 0$$

$$r^2 + 5r - 36 = 0$$

$$(r + 9)(r - 4) = 0$$

$$r_1 = -9 \quad r_2 = 4$$

✓

$$n = r + 10$$

$$n = 14$$

✓

$$V = S_0 \cdot n$$

$$V = 16\pi \cdot 14$$

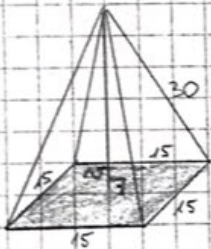
$$V = 224\pi \text{ cm}^3$$

$$V = 703,71 \text{ cm}^3$$

$$S_0 = \pi r^2$$

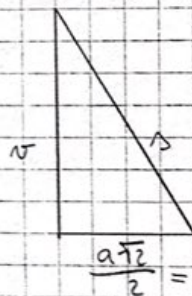
$$S_0 = 16\pi$$

2.



$$a = 15$$

$$l = 30$$



$$n = \sqrt{30^2 - \left(\frac{15}{2}\right)^2}$$

$$n = 28,06 \text{ cm}$$

✓

$$V = S_0 \cdot n \cdot \frac{1}{3}$$

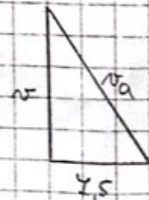
$$V = a^2 \cdot 28,06 \cdot \frac{1}{3}$$

$$V = 2104,5 \text{ cm}^3$$

✓

$$S_{pl} = 4 \cdot \frac{a \cdot l}{2}$$

$$S_{pl} = 871,5 \text{ cm}^2$$



$$l_a = \sqrt{n^2 + \left(\frac{a}{2}\right)^2}$$

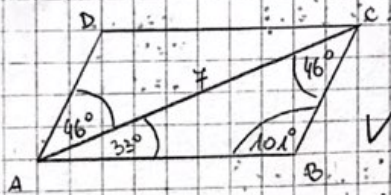
$$l_a = 29,05 \text{ cm}$$

$$P = S_0 + S_{pl}$$

$$P = 1096,5 \text{ cm}^2$$

✓

3.



$$\begin{aligned} \gamma &= \alpha = 79^\circ \\ \delta &= \beta = 101^\circ \end{aligned}$$

$$\alpha + \beta = 180^\circ$$

$$\frac{f}{\sin 101^\circ} = \frac{b}{\sin 79^\circ}$$

$$\frac{a}{\sin 46^\circ} = \frac{f}{\sin 101^\circ}$$

$$b = 3,88 \text{ cm}$$

$$a = 5,13 \text{ cm}$$

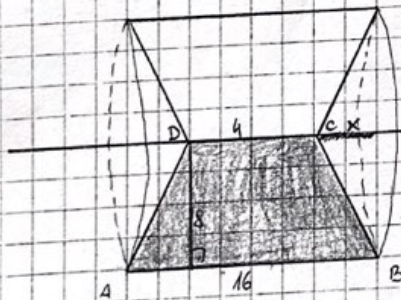
$$S = a \cdot b \cdot \sin \alpha$$

$$S = 5,13 \cdot 3,88 \cdot \sin 79^\circ$$

$$S = 19,54 \text{ cm}^2$$

25

4.



Valj, ki ima izrezana dva enaka stožca

STOŽEC:

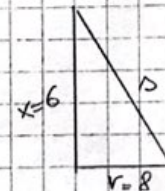
$$4 + 2x = 16$$

$$2x = 12$$

$$x = 6 = r$$

$$V = V_{\text{valja}} - 2 \cdot V_{\text{stožca}}$$

$$P = Sp_{\text{valja}} + 2 \cdot Sp_{\text{stožca}}$$



$$a = \sqrt{6^2 + 8^2}$$

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

