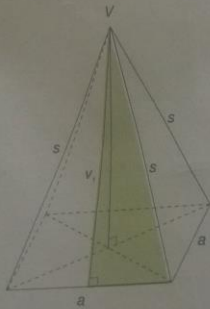


13 V označenem trikotniku izračunaj dolžino neznane stranice in nato izračunaj še površino in prostornino piramide.

a) Osnovni rob meri 24 cm, stranska višina pa 20 cm.

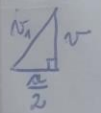


$$a = 24 \text{ cm} \quad \Delta^2 = \left(\frac{a}{2}\right)^2 + v_1^2$$

$$v_1 = 20 \text{ cm} \quad \Delta^2 = 12^2 + 20^2$$

$$\Delta, P, V \quad \Delta^2 = 544$$

$$\Delta = 23,3 \text{ cm}$$



$$v^2 = v_1^2 - \left(\frac{a}{2}\right)^2$$

$$v^2 = 20^2 - 12^2$$

$$v^2 = 256$$

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

$$P = S + pl$$

$$P = \Delta^2 + 4 \cdot \frac{a \cdot v_1 \cdot 2}{2 \cdot 1}$$

$$P = 24^2 + 2 \cdot 24 \cdot 20$$

$$P = 1536 \text{ cm}^2$$

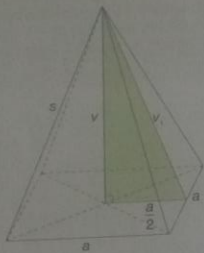
$$V = \frac{S \cdot v}{3}$$

$$V = \frac{a^2 \cdot v}{3}$$

$$V = \frac{24^2 \cdot 16}{3}$$

$$V = 3072 \text{ cm}^3$$

b) Stranska višina meri 17 cm, višina pa 15 cm.

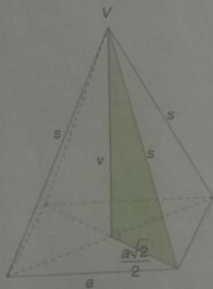


$$\begin{aligned} N_1 &= 17 \text{ cm} \\ N &= 15 \text{ cm} \\ a, P, V \\ S &= a^2 \\ S &= 16^2 \\ S &= 256 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \left(\frac{a}{2}\right)^2 &= N_1^2 - N^2 \\ \left(\frac{a}{2}\right)^2 &= 17^2 - 15^2 \\ \left(\frac{a}{2}\right)^2 &= 64 \\ \frac{a}{2} &= 8 / 2 \\ a &= 16 \text{ cm} \end{aligned}$$

$$\begin{aligned} P &= S + 4 \frac{a \cdot N_1}{2} \\ P &= S + 2a \cdot N_1 \\ P &= 256 + 2 \cdot 16 \cdot 17 \\ P &= 800 \text{ cm}^2 \\ V &= \frac{S \cdot v}{3} \\ V &= \frac{256 \cdot 15}{3} \\ V &= 1280 \text{ cm}^3 \end{aligned}$$

c) Osnovni rob meri 40 cm, višina pa 21 cm.



$$\begin{aligned} a &= 40 \text{ cm} \\ N &= 21 \text{ cm} \\ N_1, P, V \\ S &= a^2 \\ S &= 40^2 \\ S &= 1600 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} N^2 &= N_1^2 - \left(\frac{a}{2}\right)^2 \\ N^2 &= 21^2 - (20)^2 \\ N^2 &= 441 - 800 \\ N^2 &= 1241 \\ N &= 35,2 \text{ cm} \end{aligned}$$

$$\begin{aligned} P &= S + 4s \\ P &= a^2 + 2a \cdot N_1 \\ P &= 40^2 + 2 \cdot 40 \cdot 29 \\ P &= 1600 + 2320 \\ P &= 3920 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} V &= \frac{S \cdot v}{3} \\ V &= \frac{1600 \cdot 21}{3} \\ V &= 11200 \text{ cm}^3 \end{aligned}$$

17) Osnovni rob meri 12 cm, stranska višina pa 13 cm.

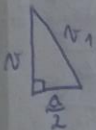
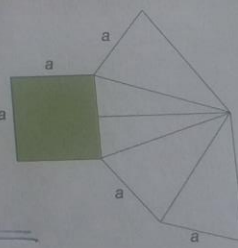
- a) Mreža katerega geometrijskega telesa je prikazana na sliki? **TRAVILNE ROZKONČNE 4-STORANJE PIRAMIDE**  
 b) Kolikšna je površina telesa?  
 c) Koliko meri prostornina telesa?



$$\begin{aligned} a &= 12 \text{ cm} \\ N_1 &= 13 \text{ cm} \\ P, V \end{aligned}$$

$$\begin{aligned} P &= S + 4s \\ P &= a^2 + 4 \cdot \frac{a \cdot N_1}{2} \\ P &= 12^2 + 2 \cdot 12 \cdot 13 \\ P &= 456 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} N^2 &= N_1^2 - \left(\frac{a}{2}\right)^2 \\ N^2 &= 13^2 - 6^2 \\ N^2 &= 169 - 36 \\ N^2 &= 133 \\ N &= 11,5 \text{ cm} \end{aligned}$$



$$\begin{aligned} V &= \frac{S \cdot v}{3} \\ V &= \frac{12^2 \cdot 11,5}{3} \\ V &= 552 \text{ cm}^3 \end{aligned}$$

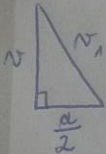
- 18 Nariši mrežo pravilne 4-strane piramide, če je osnovni rob 4 cm, višina piramide pa je 3 cm.



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

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

$$v_1 =$$

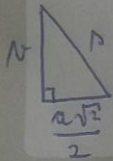


$$v_1^2 = v^2 + \left(\frac{a}{2}\right)^2$$

$$v_1^2 = 3^2 + 2^2$$

$$v_1^2 = 13$$

$$v_1 = \sqrt{13} \text{ cm}$$

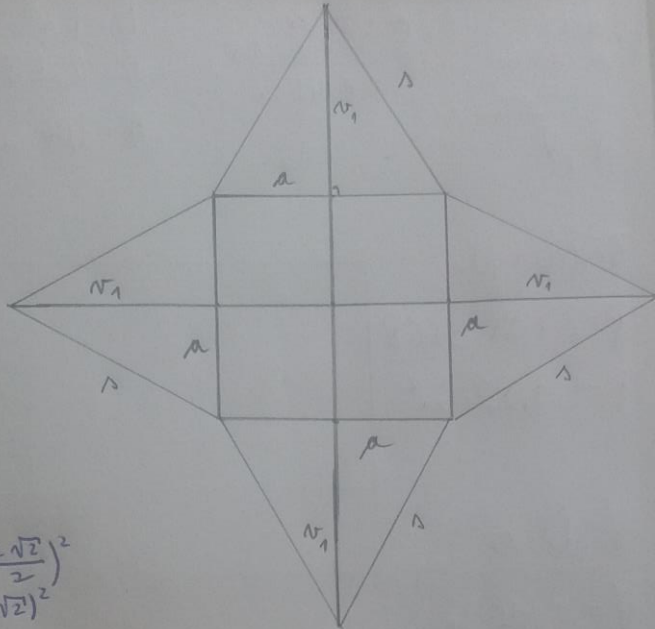


$$v_1^2 = v^2 + \left(\frac{a\sqrt{2}}{2}\right)^2$$

$$v_1^2 = 3^2 + (2\sqrt{2})^2$$

$$v_1^2 = 9 + 8$$

$$v_1^2 = 17, v_1 = \sqrt{17} \text{ cm}$$



- 19 Prostornina pravilne 4-strane piramide z osnovnim robom 16 cm je  $1280 \text{ cm}^3$ . Koliko meri njena površina?



$$V = 1280 \text{ cm}^3$$

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

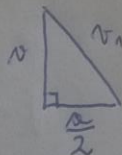
$$P =$$

$$V = \frac{a^2 \cdot v}{3}$$

$$v = \frac{3V}{a^2}$$

$$v = \frac{3 \cdot 1280}{16^2}$$

$$v = 15 \text{ cm}$$



$$v_1^2 = v^2 + \left(\frac{a}{2}\right)^2$$

$$v_1^2 = 15^2 + 8^2$$

$$v_1^2 = 225 + 64$$

$$v_1^2 = 289$$

$$v_1 = 17 \text{ cm}$$

$$P = S + pl$$

$$P = a^2 + 4 \cdot \frac{a \cdot v_1 \cdot 2}{2 \cdot 1}$$

$$P = 16^2 + 2 \cdot 16 \cdot 17$$

$$P = \underline{\underline{800 \text{ cm}^2}}$$