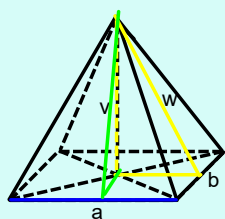


Vypočítej výšku a povrch čtyřbokého jehlanu, když jeho podstava je obdélník s rozměry 8 cm a 5 cm a jeho objem je 120 cm^3 .

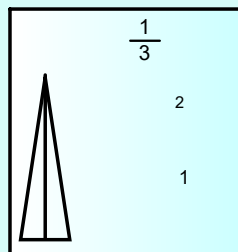


$$V = \frac{1}{3} \cdot a \cdot b \cdot v$$

$$120 = \frac{1}{3} \cdot 8 \cdot 5 \cdot v$$

$$120 = \frac{1}{3} \cdot 40 \cdot v$$

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



$$a' = 1/2 a$$

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

$$w^2 = a'^2 + v^2$$

$$w^2 = 4^2 + 9^2$$

$$w^2 = 16 + 81$$

$$w^2 = 97$$

$$w_1 = 9,85 \text{ cm}$$



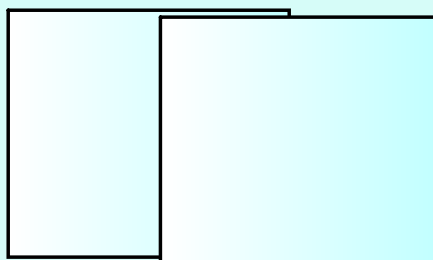
$$w^2 = b'^2 + v^2$$

$$w^2 = 2,5^2 + 9^2$$

$$w^2 = 6,25 + 81$$

$$w^2 = 87,25$$

$$w_2 = 9,34 \text{ cm}$$



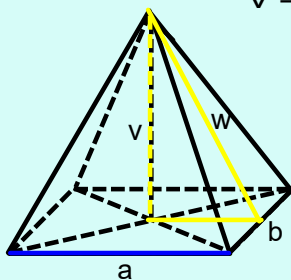
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$$w_1 = 9,85 \text{ cm}$$

$$w_2 = 9,34 \text{ cm}$$

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

$$a = 8 \text{ cm} \quad b = 5 \text{ cm}$$

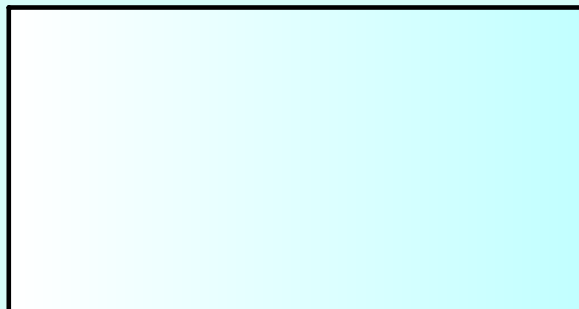


$$S = a \cdot b + a \cdot w_2 + b \cdot w_1$$

$$S = 8 \cdot 5 + 8 \cdot 9,34 + 5 \cdot 9,85$$

$$S = 40 + 74,72 + 49,25$$

$$S = 163,97 \text{ cm}^2$$



kvě 3-18:45