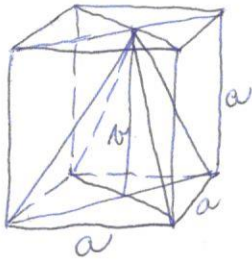


5)



$$a = 12 \text{ cm} = v, \quad V_k = ? [\text{cm}^3], \quad V_j = ? [\text{cm}^3]$$

$$V_k = a^3$$

$$V_k = 12^3$$

$$V_k = 1728 \text{ cm}^3$$

$$V_j = \frac{1}{3} S_{\text{p}} \cdot v$$

$$V_j = \frac{1}{3} a^2 \cdot a$$

$$V_j = \frac{1}{3} \cdot 12^3$$

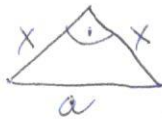
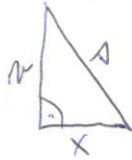
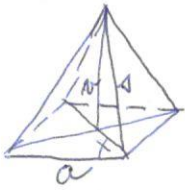
$$V_j = 576 \text{ cm}^3$$

$$\underline{\underline{V_j = \frac{1}{3} V_k \Rightarrow 33,3\%}}$$

$$\left( \begin{array}{r} 1728 \text{ cm}^3 \quad \dots \quad 100\% \\ 576 \text{ cm}^3 \quad \dots \quad x\% \\ \hline x = \frac{100 \cdot 576}{1728} = \underline{\underline{33,3\%}} \end{array} \right)$$

Objem jehlanu tvoří cca 33% objemu krychle.

6)



$$a = 7 \text{ cm}, \quad s = 10 \text{ cm}, \quad m = 1 \text{ kg} = 1000 \text{ g}$$

$$a^2 = x^2 + x^2$$

$$7^2 = 2x^2$$

$$x^2 = \frac{49}{2}$$

$$x = \sqrt{24,5}$$

$$x = 4,9 \text{ cm}$$

$$v^2 = s^2 - x^2$$

$$v^2 = 10^2 - 24,5$$

$$v = \sqrt{75,5}$$

$$v = 8,7 \text{ cm}$$

$$V = \frac{1}{3} \cdot a^2 \cdot v$$

$$V = \frac{7^2 \cdot 8,7}{3}$$

$$V = \frac{426,3}{3}$$

$$\underline{\underline{V = 142,1 \text{ cm}^3}}$$

$$\rho = \frac{m}{V}$$

$$\rho = \frac{1000}{142,1} = \underline{\underline{7,04 \text{ g/cm}^3}} \Rightarrow \underline{\underline{Zn}}$$

Model je vyroben ze zinku.