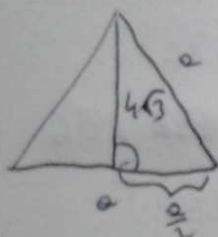
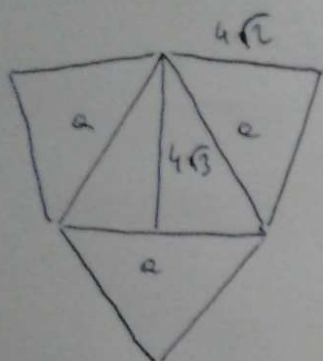


ZAD 1376

PODSTAWA - WYZNACZAM KRAWĘDZ PODSTAWY
z TL. PITAGORASA



$$a^2 - \frac{a^2}{4} = (4\sqrt{3})^2$$

$$\frac{3a^2}{4} = 48 \quad | \cdot \frac{4}{3}$$

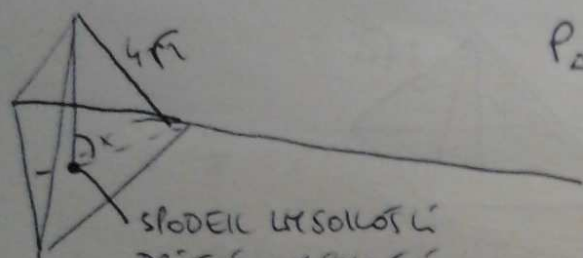
$$a^2 = 48 \cdot \frac{4}{3}$$

$$a^2 = 64 \quad | \sqrt{}$$

$$a = \sqrt{64} = 8$$

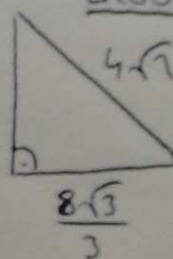
$$P_{\Delta} = \frac{a^2 \sqrt{3}}{4} = \frac{8^2 \sqrt{3}}{4} = \frac{64 \sqrt{3}}{4} = 16\sqrt{3}$$

WYSOKOŚĆ OSTNOŚCIUPY



SPÓDEK WYSOKOŚCI
DŁUGI WYSOKOŚCI
PODSTAWY W PROPORCJI
2:1 CIEŁY

$$x = \frac{2}{3} h = \frac{2}{3} \cdot 4\sqrt{3} = \frac{8\sqrt{3}}{3}$$



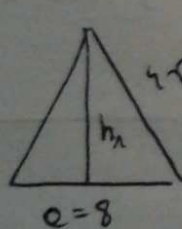
$$H^2 = (4\sqrt{3})^2 - \left(\frac{8\sqrt{3}}{3}\right)^2$$

$$H^2 = 32 - \frac{64 \cdot 3}{9}$$

$$H^2 = \frac{288 - 192}{9}$$

$$H = \sqrt{\frac{96}{9}} = \frac{4\sqrt{6}}{3}$$

WYSOKOŚĆ ŚCIANY BOCZNEJ



$$h_1^2 = (4\sqrt{3})^2 - 4^2$$

$$h_1^2 = 32 - 16$$

$$h_1^2 = 16$$

$$h_1 = \sqrt{16} = 4$$

$$P_{\Delta \text{ bocz.}} = \frac{1}{2} \cdot 8 \cdot 4 = 16$$

OBJĘTOŚĆ OSTNOŚCIUPY

$$V = \frac{1}{3} P_{\Delta} \cdot H = \frac{1}{3} \cdot 16\sqrt{3} \cdot \frac{4\sqrt{6}}{3} =$$

$$= \frac{64}{9} \cdot \sqrt{18} = \frac{8 \cdot 64}{3} \cdot \sqrt{2} =$$

$$= \frac{64\sqrt{2}}{3}$$

$$P_{\text{całk.}} = P_{\Delta} + 3 P_{\Delta \text{ bocz.}} = 16\sqrt{3} + 3 \cdot 16 =$$

$$= 16(\sqrt{3} + 3)$$