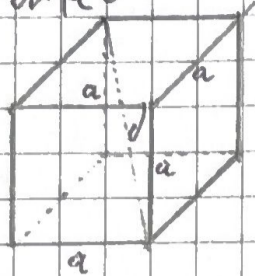


Geometrische Formeln 3D

Würfel



$$V = a \cdot a \cdot a = a^3$$

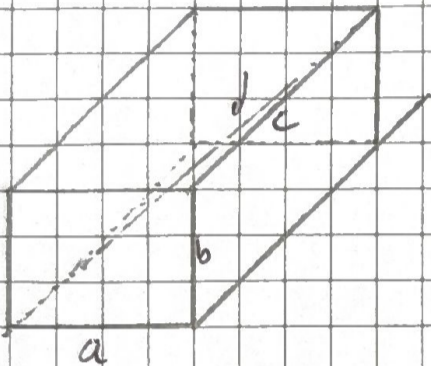
$$a = \sqrt[3]{V}$$

$$A = 6 \cdot a^2$$

$$a = \sqrt{\frac{A}{6}}$$

$$d = \sqrt{a^2 + a^2 + a^2} = d = \sqrt{3 \cdot a^2}$$

Quader

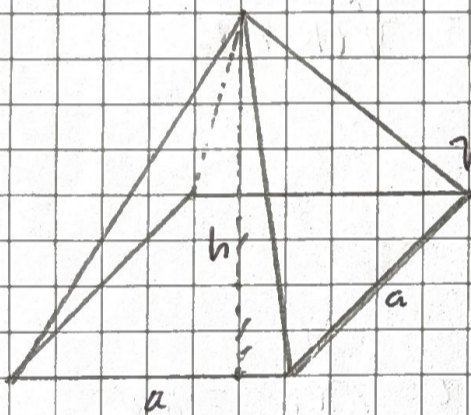


$$V = a \cdot b \cdot c$$

$$A = 2(a \cdot b) + 2(b \cdot c) + 2(a \cdot c) = 2(ab + bc + ac)$$

$$d = \sqrt{a^2 + b^2 + c^2}$$

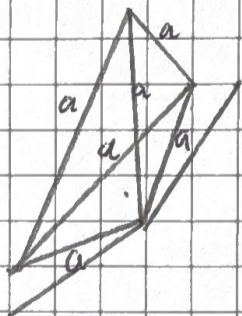
Pyramide (Regulär)



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

$$\sqrt{\frac{3V}{h}} = a$$

Tetraeder (Regulär)



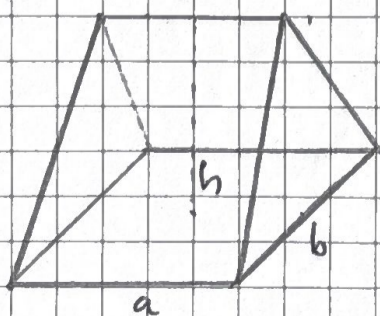
$$G = \frac{a^2}{4} \sqrt{3}$$

$$V = \frac{1}{3} \cdot \frac{a^2}{4} \sqrt{3} \cdot h = \frac{a^2}{12} \cdot \sqrt{3} \cdot h = \frac{a^3}{12} \cdot \sqrt{2}$$

$$h = \sqrt{\frac{2}{3} \cdot a^2} = a \sqrt{\frac{2}{3}}$$

$$O = 4A = 4 \cdot \frac{a^2}{4} \cdot \sqrt{3} = a^2 \cdot \sqrt{3}$$

Keil



$$V = \frac{1}{6} \cdot b \cdot h \cdot (2a + c)$$