

Pyramide/Kegel

Nr. 1

$$\begin{aligned} \textcircled{1} \quad V_1 &= \frac{1}{3} G \cdot h \\ &= \frac{1}{3} \pi \cdot r^2 \cdot h \\ &= \frac{1}{3} \pi \cdot 4 \cdot 4^2 \\ &= 67,02 \text{ [cm}^3\text{]} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad V_2 &= G \cdot h \\ &= \pi \cdot r^2 \cdot h \\ &= \pi \cdot 2^2 \cdot 2 \\ &= 25,13 \text{ [cm}^3\text{]} \end{aligned}$$

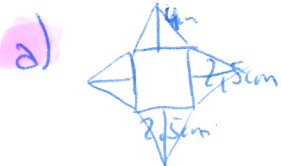
$$\begin{aligned} \textcircled{3} \quad V_3 &= \frac{1}{3} G \cdot h \\ &= \frac{1}{3} \pi \cdot r^2 \cdot h \\ &= \frac{1}{3} \pi \cdot 2^2 \cdot 6 \\ &= 25,13 \text{ [cm}^3\text{]} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad V_4 &= \frac{1}{3} G \cdot h \\ &= \frac{1}{3} \cdot a \cdot b \cdot h \\ &= \frac{1}{3} \cdot 7 \cdot 7 \cdot 4 \\ &= 63,3 \text{ [cm}^3\text{]} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad V_5 &= \frac{1}{3} G \cdot h \\ &= \frac{1}{3} \pi \cdot r^2 \cdot h \\ &= \frac{1}{3} \pi \cdot 6^2 \cdot 2 \\ &= 75,40 \text{ [cm}^3\text{]} \end{aligned}$$

$$V_5 > V_1 > V_4 > V_3 > V_2$$

Nr. 2



$$\begin{aligned} \text{b) } V &= \frac{1}{3} G \cdot h \\ &= \frac{1}{3} \cdot a^2 \cdot h \\ &= \frac{1}{3} \cdot 2,5^2 \cdot 3,8 \\ &= 7,92 \text{ [cm}^3\text{]} \end{aligned}$$

$$4^2 = h^2 + \left(\frac{2,5}{2}\right)^2$$

$$\boxed{3,8} = h$$

$$\begin{aligned} O &= 2,5 \cdot 2,5 + 4 \cdot \frac{1}{2} \cdot 2,5 \cdot 4 \\ &= 26,25 \text{ [cm}^2\text{]} \end{aligned}$$

$$\begin{aligned} \text{c) } s &= 3,5 \text{ cm} \quad \textcircled{1} \\ h &= 3 \text{ cm} \\ s^2 &= h^2 + \left(\frac{a}{2}\right)^2 \\ a &= 2,55 \text{ cm} \end{aligned}$$

$$\begin{aligned} V &= \frac{1}{3} G \cdot h \\ &= \frac{1}{3} \cdot 2,55^2 \cdot 3 \\ &= 6,5 \text{ [cm}^3\text{]} \end{aligned}$$

Diag. des G.
↓

$$\begin{aligned} \textcircled{1} \quad a^2 + a^2 &= d^2 \\ \sqrt{2a} &= d \\ \frac{\sqrt{2}}{2} a &= \frac{d}{2} \\ \left(\frac{1}{\sqrt{2}}\right) a &= \frac{d}{2} \end{aligned}$$