

• Calculons V_1 . $r = 1$

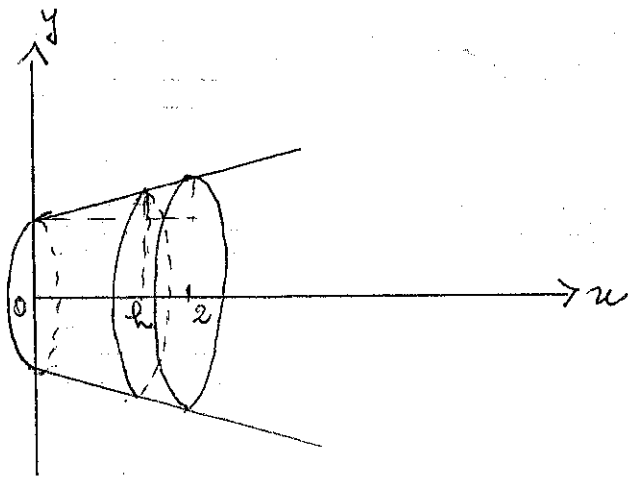
$$(VC+2) : VC = R : r \rightarrow \overline{VC} = 4 \text{ dm}$$

$$V_1 = \frac{\pi r^2 h}{3} = \frac{\pi r^2 \overline{VC}}{3} = \frac{4\pi}{3} = 4,19 \text{ dm}^3$$

• $\overline{PC} = h$

$$(h+4)^3 : 4^3 = (V_A + V_1) : V_1 \rightarrow h = 4 \sqrt[3]{\frac{V_A + V_1}{V_1}} - 4$$

$$h \approx 1,89 \text{ dm}$$



$$y-1 = \frac{1}{2}x$$

$$y = \frac{1}{4}x + 1$$

$$V = \pi \int_0^h \left(\frac{1}{4}x + 1\right)^2 dx = \pi 4 \int_0^h \frac{1}{4} \left(\frac{1}{4}x + 1\right)^2 dx$$

$$= \pi 4 \left(\frac{1}{4}x + 1\right)^3 \Big|_0^h = \frac{4\pi}{3} \left[\left(\frac{1}{4}h + 1\right)^3 - 1 \right]$$

$$\Rightarrow \frac{3V}{4\pi} + 1 = \left(\frac{1}{4}h + 1\right)^3 \Rightarrow \frac{1}{4}h + 1 = \sqrt[3]{\frac{3V}{4\pi} + 1} \Rightarrow$$

$$\frac{1}{4}h = \sqrt[3]{\frac{3V}{4\pi} + 1} - 1$$

$$h = 4 \left[\sqrt[3]{\frac{3V}{4\pi} + 1} - 1 \right] \approx 1,89 \text{ dm}$$