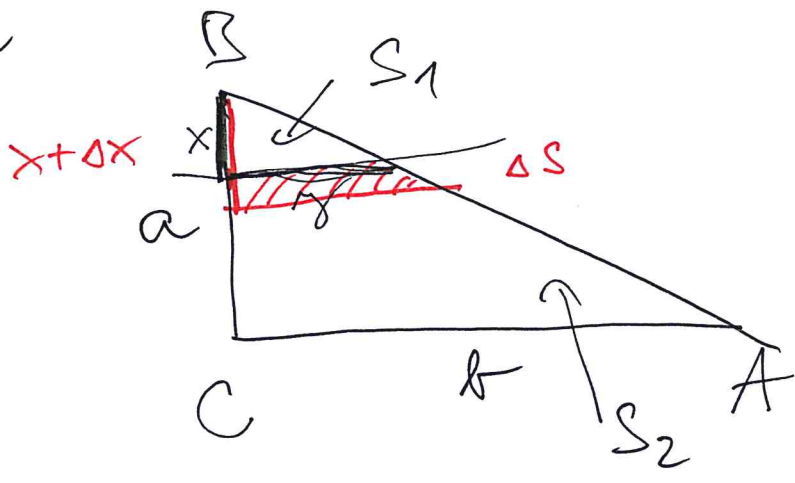


18a



$$\frac{a}{b} = \frac{x}{y}$$

$$y = x \cdot \frac{a}{b}$$

mit $\frac{b}{a}$

$$S_{\Delta} = \frac{1}{2} ab = S_1 + S_2$$

$$S_1 = \frac{1}{2} x y = \frac{1}{2} x \cdot x \cdot \frac{a}{b}$$

↑
i würde
mit $\frac{a}{b}$

$$S_1 = \frac{a}{2b} x^2$$

$$S_1' = \frac{a}{2b} \cdot 2x = \frac{a}{b} x$$

$$S_2 = \frac{1}{2} ab - \frac{a}{2b} x^2$$

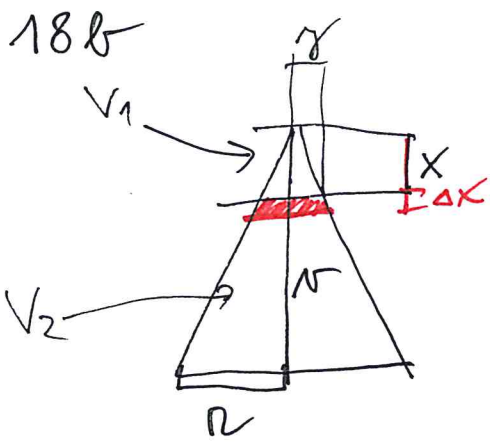
$$S_1' = \frac{dS}{dx}$$

$$S_2' = \frac{dS}{dx} = \frac{a}{b} x = y$$

$$S_2' = -\frac{a}{b} \cdot 2x = -\frac{a}{b} x = -y$$

$$dS_1 = y \cdot dx$$

$$dS_2 = -y dx$$



$$\frac{r}{h} = \frac{y}{x}$$

$$y = \frac{r}{h} x$$

ma'bst $\frac{r}{h}$

$$V = V_1 + V_2$$

$$V = \frac{1}{3} \pi r^2 h$$

$$V_1 = \frac{1}{3} \pi \left(\frac{r}{h} x \right)^2 \cdot x = \frac{1}{3} \pi \frac{r^2}{h^2} x^3$$

$$V_2 = \frac{1}{3} \pi r^2 h - \frac{1}{3} \pi \frac{r^2}{h^2} x^3$$

$$V_1' = \frac{1}{3} \pi \frac{r^2}{h^2} \cdot 3x^2 = \frac{\pi r^2}{h^2} x^2$$

$$V_2' = - \frac{\pi r^2}{h^2} x^2$$

$$dV_1 = \pi y^2 dx = \pi \left(\frac{r}{h} x \right)^2 dx$$

$$V_1' = \frac{dV_1}{dx} = \pi \left(\frac{r}{h} x \right)^2$$