



$$V(\text{volume tronco di cono contenitore}) = \frac{1}{3}h(R^2 + rR + r^2)$$

$$V_1(\text{volume occupato dall'acqua}) = \frac{1}{3}h_1(r_1^2 + rr_1 + r^2)$$

I triangoli $\triangle BFH_1$ e $\triangle BCH$ sono simili, quindi: $\frac{BH_1}{BH} = \frac{FH_1}{CH} \Rightarrow \frac{h_1}{h} = \frac{r_1 - r}{R - r}$

$$\frac{V_1}{V} = \frac{h_1(r_1^2 + rr_1 + r^2)}{h(R^2 + rR + r^2)} = \frac{r_1 - r}{R - r} \cdot \frac{(r_1^2 + rr_1 + r^2)}{(R^2 + rR + r^2)} = \frac{r_1^3 - r^3}{R^3 - r^3} \Rightarrow$$

$$\frac{r_1^3 - r^3}{R^3 - r^3} = \frac{9,170}{9,951} \Rightarrow r_1^3 = \frac{9,170}{9,948} \cdot (1,5^3 - 1^3) + 1^3 = 3,1889 \Rightarrow$$

$$r_1 = 1,472 \quad e \quad h_1 = \frac{1,472 - 1}{1,5 - 1} \cdot 2 = 1,888 \text{ dm} \cong 1,89 \text{ dm}$$