

Gest BM 2M, 1.4.2011

① $1.5 / 0.5 / 1.00125 / 10$

② $q = 1:1'000 / 4 \text{ mm}^2$

③ $L = 4.83 \text{ m}, A = 2.4 \text{ m}^2, V = 70 \text{ l}$
 $q = 1:50 = \frac{1}{50} = 0.02$

$$L' = q \cdot L = 9.66 \text{ cm}$$

$$A' = q^2 \cdot A = 9.6 \text{ cm}^2$$

$$V' = q^3 \cdot V = 0.56 \text{ ml} = 560 \mu\text{l}$$

④ $P' = 19'405.98 = P \cdot (1.1)^3 \cdot (0.9)^3$
 $P = \frac{P'}{(1.1)^3 (0.9)^3} = \underline{\underline{20'000.}}$

⑤ $\frac{V'}{V} = \frac{1}{2} = q^3 \Rightarrow q = \sqrt[3]{\frac{1}{2}}$

$$h = 8.82 \text{ cm}, h' = h \cdot q = \underline{\underline{7 \text{ cm}}}$$

⑥ a) $\frac{A'}{A} = q^2 = \frac{1}{7.569} \Rightarrow q = \frac{1}{87} = 1:87$
 ≈ 0.011494

b) $V' = \left(\frac{1}{87}\right)^3 \cdot 1.5 \text{ l} = \underline{\underline{2.278 \mu\text{l}}}$

c) $q^3; V' = \dots, m' = m q^3 \approx 127.56 \text{ g}$

d) $q; v' = q \cdot v = 1.61 \text{ km/h}$
 $\approx 0.447 \text{ m/s}$