

15.)

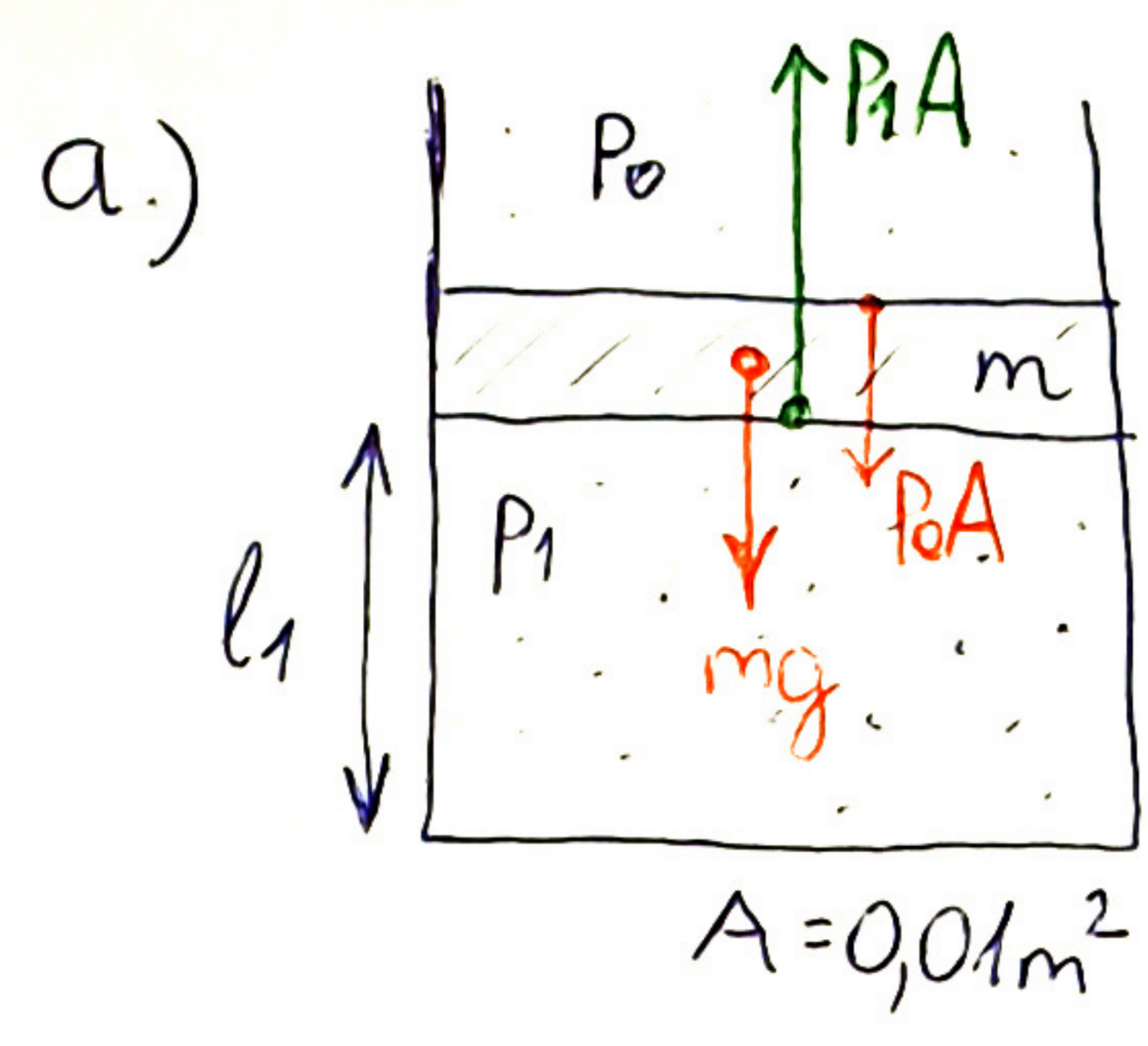
$Q=0$
 $A=100\text{cm}^2$

$m=20\text{kg}$
 $M=250\text{kg}$

$l_1=50\text{cm}$
 $T_1=300\text{K}$

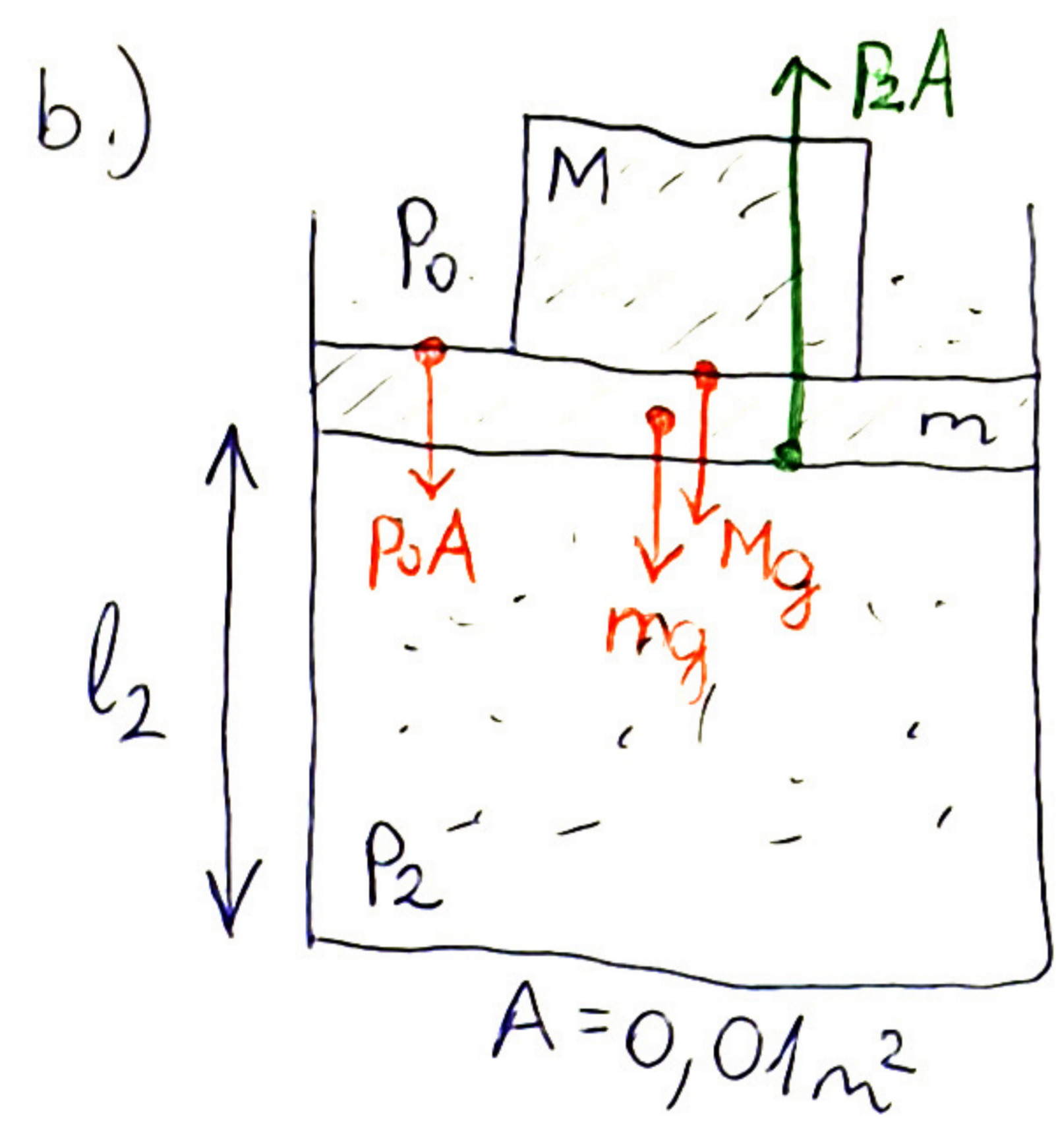
$P_0=10^5\text{Pa}$
 levegő (N_2, O_2)
 $f=5$

- a.) $P_1=?$
- b.) $P_2=?$
 $T_2=?$
 $l_2=?$



$\boxed{F_e=0}$
 $P_1 A = mg + P_0 A$
 \downarrow
 $P_1 = \dots \checkmark$

$A=0,01\text{m}^2$



$\boxed{F_e=0}$
 $P_2 A = P_0 A + mg + Mg$
 $P_2 = \dots \checkmark$

$A=0,01\text{m}^2$

$V_1 = Al_1$
 $V_2 = Al_2$

$Q_{12}=0$ adiabatikus

$\kappa = \frac{f+2}{f} = \frac{5+2}{5} = \frac{7}{5} = 1,4$

Poisson 1.

$P_1 V_1^\kappa = P_2 V_2^\kappa$

$P_1 A^\kappa l_1^\kappa = P_2 A^\kappa l_2^\kappa \rightarrow l_2 = \dots \checkmark$

Egyenített gáztv.

$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2} \rightarrow T_2 = T_1 \frac{P_2 V_2}{P_1 V_1} = T_1 \frac{P_2}{P_1} \cdot \frac{Al_2}{Al_1} = \dots \checkmark$