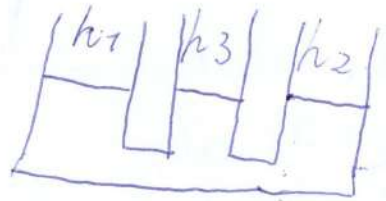


1) $R_1 = 20 \text{ Ом}$
 $R_2 = 20 \text{ Ом}$
 $R_3 = 20 \text{ Ом}$
 $R_x = ?$

$(R_x = R_1 + R_2 + \dots + R_n = 20 + 20 + 20 = 60 \text{ Ом})$
 $n: R_x = 60 \text{ Ом}$
 $R_1 = \frac{(2R + R) \cdot 2R}{2R + R + 2R} = \frac{6}{5} R$
 $R_{01} = \frac{6}{5} R + R = 2,2R$
 $R_x = R_1 + R_2 + R_n = 20 + 20 + 20 = 60 \text{ Ом}$
 $R_x = 60 \text{ Ом}$

4) $h_1 = 30 \text{ мм} = 30 \cdot 10^{-3} \text{ м}$
 $h_2 = 60 \text{ мм} = 60 \cdot 10^{-3} \text{ м}$
 $\rho_k = 2400 \text{ кг/м}^3$
 $\rho_m = 900 \text{ кг/м}^3$
 $T/h \cdot h-3?$

$p_1 = \rho g h_1$
 $p_2 = \rho g h_2$
 $p_3 = \rho g h_3$
 $p_1 + p_2 = p_3$
 $h_1(\rho_k + \rho_m) + h_2(\rho_k + \rho_m) = h_3(\rho_k + \rho_m)$
 $h_1 h_3 = h_1(\rho_k + \rho_m) + h_2(\rho_k + \rho_m)$
 $h_3 = \frac{30 \cdot 10^{-3} \cdot (2400 + 900) + 60 \cdot 10^{-3} \cdot (2400 + 900)}{\rho_k + \rho_m}$
 $= \frac{90 \cdot 10^{-3} \cdot 3300}{3300} = 90 \cdot 10^{-3} \text{ м} = 90 \text{ мм}$
 $n: h_3 = 90 \text{ мм}$



2) $d_1 = 3,5 \text{ г/см}^3$
 $L = 1,5 \text{ г/см}^3$
 $d_2 = ?$
 $d_2 = 3,5 - 1,5 = 2 \text{ г/см}^3$

3) $R = 2000 \text{ Ом}$
 $\eta = 80\%$
 $U = 220 \text{ В}$
 $t = 25 \text{ мин}$
 $t_1 = 20^\circ \text{C}$
 $t_2 = 100^\circ \text{C}$
 $m = 0,6 \text{ л}$
 $\epsilon = 4200 \text{ Дж/кг}$
 $\rho = 1000 \text{ кг/м}^3$
 $m \text{ (қалмақ)}$

$Q = cm(t_2 - t_1) = 4200 \cdot 0,6 \cdot (100 - 20) = 201600 = 20,16 \cdot 10^4$