

1.

1. , :

$$\Delta L = L_1 - L_2 \quad (2 \quad)$$

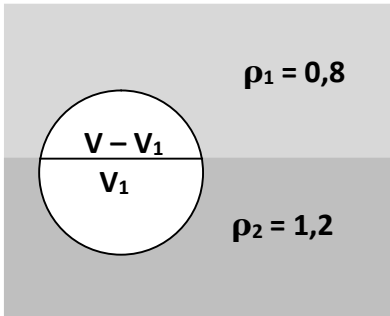
2. . . .

$$N_2 = \frac{L_1}{\Delta L}; \quad N_2 = \frac{8}{2} = 4 \quad (\quad) \quad (4 \quad)$$

3. , : $s = L_2 \cdot N_2 = 24 \quad (2 \quad)$

4. : $N_1 = s/L_1 = 3 \quad (\quad) \quad (2 \quad)$

2



$$\rho g V = \rho_2 g V_1 + \rho_1 g (V - V_1) \quad (5 \quad)$$

$$\rho V = \rho_2 V_1 + \rho_1 V - \rho_1 V_1$$

$$\rho = \rho_2 \frac{V_1}{V} + \rho_1 - \rho_1 \frac{V_1}{V}; \quad \frac{V_1}{V} = \frac{\rho - \rho_1}{\rho_2 - \rho_1}; \quad \frac{V_1}{V} = 0,5. \quad (5 \quad)$$

: 0,5

3

1. ,

$$mc\Delta T_1 = \Delta mc\Delta T_3 \Rightarrow \Delta m = \frac{m\Delta T_1}{\Delta T_3} \quad (3 \text{ балла})$$

2. : $\Delta m_3 = m \left(1 - \frac{\Delta T_1}{\Delta T_3} \right)$. (1)

3. : $mc(t_2 - t_x) = m \left(1 - \frac{\Delta T_1}{\Delta T_3} \right) c(t_x - t_3); \quad \frac{\Delta T_1}{\Delta T_3} = \frac{20}{30} = \frac{2}{3}$. (4)
: $t_x = 40^\circ\text{C}$ (2)

4

3 (8)

: 30 (2)