

1.

$$p_1 = \rho_1 g h_1 \approx 2,4 \text{ кПа}; \quad p_2 = \rho_2 g h_2 \approx 1,8 \text{ кПа}.$$

$$p_1 > p_2,$$

 ρ_0

$$\rho_1 g h_1 = \rho_2 g h_2 + \rho_0 g h_0$$

 ρ_0 ,

$$h_0 = \frac{\rho_1 h_1 - \rho_2 h_2}{\rho_0} = 5 \text{ см}.$$

2.

$$: p_1 = \frac{mg}{S} = \frac{\rho_{\text{пл}} a^3 g}{a^2} = \rho_{\text{пл}} a g \Rightarrow a = \frac{p_1}{\rho_{\text{пл}} g}$$

$$m_{\text{ст}} = 27 \rho_{\text{ст}} a^3 g.$$

$$p_2 = \frac{27 \rho_{\text{ст}} a^3 g + \rho_{\text{пл}} a^3 g}{2S} = \left(\frac{p_1}{2\rho_{\text{пл}}} \right) \times (27\rho_{\text{ст}} + \rho_{\text{пл}})$$

$$p_1 = \frac{2\rho_{\text{пл}} p_2}{27\rho_{\text{ст}} + \rho_{\text{пл}}}$$

$$p_1 = \frac{2 \cdot 1400 \cdot 7571}{27 \cdot 7800 + 1400} = 100 \text{ Па}.$$

3.

$$Q = q_b m_b + q_s m_s \quad (1)$$

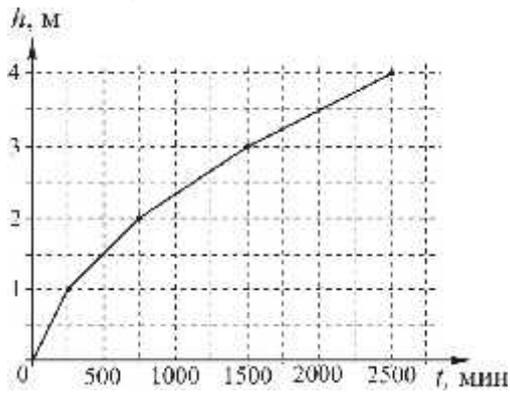
$$Q = q_o (m_b + m_s) \quad (2)$$

$$(1) \quad (2) \quad q_b m_b + q_s m_s = q_o (m_b + m_s)$$

$$: \frac{m_b}{m_s} = \frac{q_o - q_s}{q_b - q_o} = 5.$$

5:1.

4.



$$2500 = 41 \quad 40 \quad .$$

5.