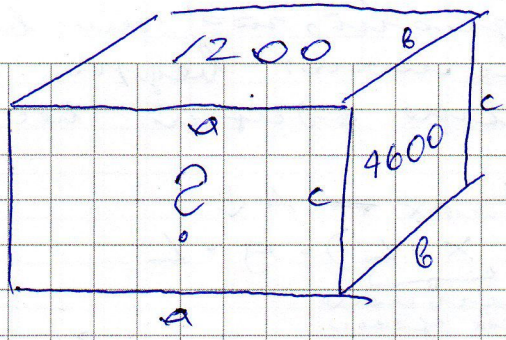


1.



$$\begin{aligned}
 V &= 2000 \text{ см}^3 \\
 m &= 3,6 \text{ кг} \\
 g &= 10 \text{ м/с}^2 \\
 P_{ab} &= 1200 \text{ Па} \\
 P_{bc} &= 4600 \text{ Па} \\
 P_{ac} &= ?
 \end{aligned}$$

$$\begin{aligned}
 V &= 2000 \text{ см}^3 = 0,002 \text{ м}^3 \\
 F_T &= mg = 3,6 \times 10 = 36 \text{ Н}
 \end{aligned}$$

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$$a \cdot b = V / c \quad b \cdot c = V / a$$

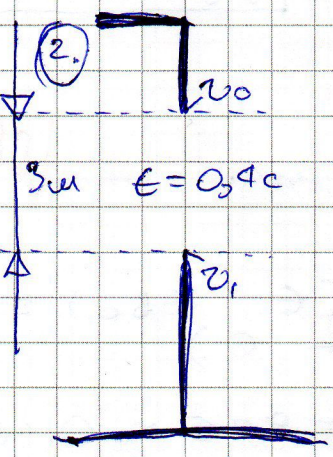
$$\begin{cases}
 1200 \text{ Па} = \frac{36 \text{ Н}}{V/c} \\
 4600 \text{ Па} = \frac{36 \text{ Н}}{V/a}
 \end{cases}
 \quad
 \begin{cases}
 1200 = 18000 \cdot c \\
 4600 = 18000 \cdot a
 \end{cases}$$

$$\begin{cases}
 1200 = \frac{36 \times c}{0,002} \\
 4600 = \frac{36 \times a}{0,002}
 \end{cases}
 \quad
 \begin{aligned}
 c &= \frac{2}{3000} \approx 0,000667 \text{ м} \\
 a &= \sim 0,26 \text{ м}
 \end{aligned}$$

$$P_{ac} = \frac{36 \text{ Н}}{0,26 \text{ м} \times 0,002} \approx 1978 \text{ Па}$$

Ответ:  $P_{ac} = \sim 1978 \text{ Па}$

2.



$$\begin{aligned}
 s &= 3 \text{ м} \\
 s &= v_0 t + \frac{g t^2}{2}
 \end{aligned}$$

$$v_0 t = s - \frac{g t^2}{2}$$

$$v_0 = \frac{s - \frac{g t^2}{2}}{t}$$

$$v_0 = \frac{3 - \frac{10 \times 0,16}{2}}{0,4} = 5,5 \text{ м/с}$$

$$v = v_0 + g t = 5,5 + 10 \times 0,4 = 9,5 \text{ м/с}$$

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Ответ:  $v_0 = 5,5 \text{ м/с}$ ;  $v = 9,5 \text{ м/с}$