

Б.кі

m

l_0

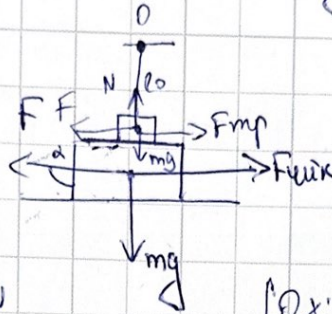
N

d

$m|x$

$A - ?$

Шешуі.



$$F_{цк} = \mu N = \mu N$$

$$A = FS = F_{цк} S$$

$$\begin{cases} \Sigma x: F - F_{цк} = ma \\ \Sigma y: N - mg = 0 \end{cases}$$

үстел үшін

1) Әйелуше үшін

$$\begin{cases} \Sigma x: F - F_{цр} = ma \\ \Sigma y: N - mg = 0 \end{cases}$$

$F_{цк}$ Әйелуше аралы

$$\begin{cases} \Sigma x: F - F_{цк} = 0 \\ \Sigma y: N - mg \end{cases}$$

$$mg - T = m_0 a$$

$$m_0 g - F_{цр} = (m + m_0) a$$

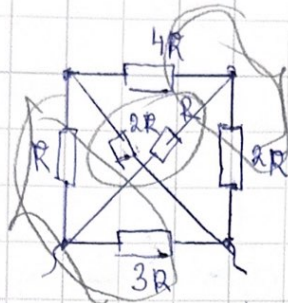
$$a = \frac{m_0 g - F_{цк}}{m + m_0}$$

$$A = -F_{цк} \cdot l = -\mu mg l$$

$A = F_{цк} S = \mu mg \cdot S = \mu mg \cdot l$ дене қозғалмағандықтан
нүшес насалмағанды, дене тоныштық қызы тұр,
қозғалмағандықтан нүшес насалмағанды.

4) Берілгені

R
мик
R₀?



Шешуі

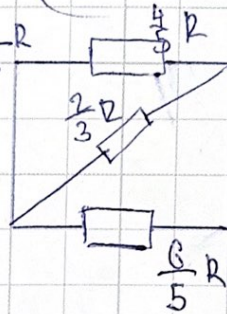
$$I = \frac{U}{R} \quad R_{21} = \frac{1}{R_1} + \frac{1}{R_2} \rightarrow \text{параллель}$$

$$R_{21} = R_1 + R_2 - \text{последовательно}$$

$$R_1 = \frac{3R \cdot 2R}{4R} = \frac{6R^2}{4R} = \frac{3R}{2} \quad R_1 = \frac{4R \cdot 2R}{4R + 2R} = \frac{8R^2}{6R} = \frac{4R}{3}$$

$$R_2 = \frac{4R \cdot 2R}{5R} = \frac{8R^2}{5R} = \frac{8R}{5}$$

$$R_3 = \frac{2R \cdot R}{3R} = \frac{2R^2}{3R} = \frac{2R}{3}$$



$$R_1' = \frac{2R}{4} \cdot \frac{2R}{3} ; \frac{3R}{4} + \frac{2R}{3}$$

$$= \frac{R^2}{2} \cdot \frac{9R + 8R}{12} = \frac{R^2}{2} \cdot \frac{17R}{12}$$

$$= \frac{R^2}{2} \cdot \frac{17R}{6} = \frac{R^2}{2} \cdot \frac{17R}{6}$$

$$R_0 = \frac{3R}{7} + \frac{4R}{3} = \frac{9R + 28R}{21} = \frac{37R}{21}$$

жауабы: $\frac{37R}{21}$

$\frac{37R}{21} = \frac{12,3R}{7}$

3) Әлі

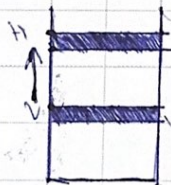
H₁

T₁ = t

T₂

мик

H₂?



$$P_1 = \frac{F_1}{S_1}$$

$$P_2 = \frac{F_2}{S_2}$$

Шешуі:

$$P = \frac{F}{S} \quad V = SH$$

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2} = \text{const} \quad H = \frac{V}{S}$$

$$\frac{F_1 \cancel{V_1}}{S_1 T_1} = \frac{F_2 \cancel{V_2}}{S_2 T_2} = \frac{F_1 H}{T_1} = \frac{F_2 H}{T_2}$$

$$\frac{F_1 H}{T_1} = \frac{F_2 H}{T_2} = \frac{F_1(H_1 - H)}{T_1} = \frac{F_2(H_2 - H)}{T_2}$$

$$F_1 T_2 (H_1 - H) = F_2 T_1 (H_2 - H)$$

$$F_1 T_2 H_1 - F_1 T_2 H = F_2 T_1 H_2 - F_2 T_1 H$$

$$F_1 T_2 H_1 - F_2 T_1 H_2 = -F_2 T_1 H + F_1 T_2 H$$

$$F_1 T_2 H_1 - F_2 T_1 H_2 = H(-F_2 T_1 + F_1 T_2) = H(F_2 T_1 - F_1 T_2)$$

$$H = \frac{F_1 T_2 H_1 - F_2 T_1 H_2}{F_2 T_1 - F_1 T_2}$$

Наудайы: $H = \frac{F_1 T_2 H_1 - F_2 T_1 H_2}{F_2 T_1 - F_1 T_2}$

2) Б.Ні

$$C = 10 \text{ мкФ} = 10 \cdot 10^{-6} \text{ Ф}$$

$$U = 300 \text{ В}$$

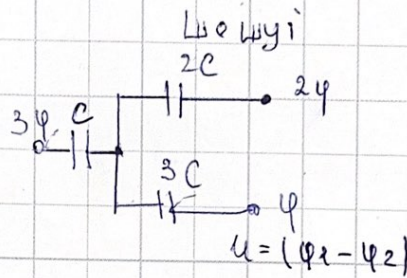
мик

q - ?

$$C = \frac{q}{U}$$

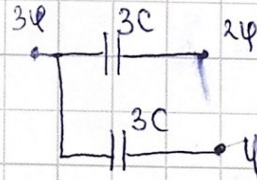
$C = C_1 + C_2$ - параллель

$$C = \frac{q}{C_1} + \frac{q}{C_2} \text{ - тізбектей } C_1 = C + 2C = 3C$$



$$U = (U_1 - U_2)$$

$$U_1 = 3U - 2U = U$$



$$C = \frac{q}{U}$$

$$C_2 = \frac{1}{\frac{1}{3C} + \frac{1}{3C}} = \frac{3C \cdot 3C}{6C} = \frac{9C^2}{6C}$$

$$q = \frac{U}{C} = \frac{2U}{15 \cdot 10^{-6}} = \frac{600 \text{ В}}{15 \cdot 10^{-6}}$$

$$= \frac{6 \cdot 10^2}{15 \cdot 10^{-6}} = 0,4 \cdot 10^8 \text{ Кл}$$

$$U_2 = U_1 + U =$$

$$U_2 = (3U - 2U) + U = 2U =$$

$$600 \text{ В}$$

$$= \frac{3C}{2} =$$

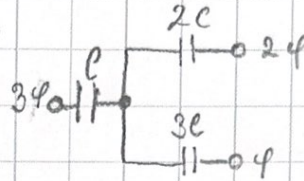
$$\frac{3 \cdot 10 \cdot 10^{-6}}{2} =$$

$$\frac{30 \cdot 10^{-6}}{2} =$$

$$15 \cdot 10^{-6}$$

Наудайы: $0,4 \cdot 10^{-5} \text{ Кл}$

$$2) I = \frac{U}{R} = \frac{3U + 2U + U}{U + 2U + 3U} = \frac{1800}{60} = 30 \text{ мкА}$$

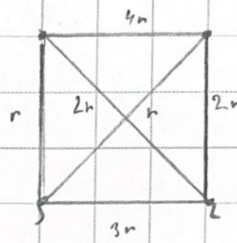


$$4) R_{\text{конт}} = R_1 + R_2$$

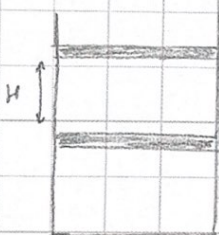
$$R_1 = 4 + 2 + 1 + 3 = 10 \text{ Ом}$$

$$R_2 = 2 + 1 = 3$$

$$R = 10 + 3 = 13 \text{ Ом}$$



3)



(сүбіне дейін төмендеугі)
төмендемейді, өйткені қысы аз.