

№ 1.

ДАНО:

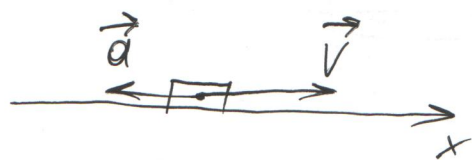
$m = 4 \text{ кг}$

$E_k = 8 \text{ Дж}$

$V_k = 0$

НАЙТИ:  $V_0$ ?

CU



Скорость

$V_k = V_1 + a t_1$

$0 = 2 - 2 \cdot t_1$

$2 = 2 t_1$

$t_1 = 1 \text{ с}$

$a = \frac{2 S_1}{t^2}$

$-2 = \frac{2 S_1}{1^2}$

$-2 = 2 S_1$

$S_1 = 1 \text{ м}$  половина пути.

$2 S_1$  - весь путь.

$S = 2 S_1$

$S = 2 \text{ м}$

$a = \frac{2 S}{t^2}$

$2 S_2 = a t^2$

$\sqrt{\frac{2 S}{a}} = t$

$\sqrt{\frac{2 \cdot 2}{-2}} = t$

$t = 1,4 \text{ с}$  - весь путь.

15

$E_k = \frac{m V_1^2}{2}$

$8 = \frac{4 \cdot V_1^2}{2}$

$4 = V_1^2 \quad V_1 = 2 \text{ м/с}$

$a = \frac{V_k^2 - V_1^2}{2}$

$a = \frac{0 - 2^2}{2}$

$a = -2 \text{ м/с}^2$

$S = V_0 t + \frac{a t^2}{2}$

~~$S - \frac{a t^2}{2} = V_0 t$~~

~~$\frac{S - \frac{a t^2}{2}}{t} = V_0$~~

~~$\frac{2 - \frac{2 \cdot 1,4^2}{2}}{1,4} = V_0$~~

$V_k = V_0 + a t$

$0 = V_0 - 2 \cdot 1,4$

$V_0 = 2,8 \text{ м/с}$

ОТВЕТ:  $V_0 = 2,8 \text{ м/с}$

$$\sqrt{=} 4.$$

Дано:

$$m = 20 \text{ кг}$$

$$T_1 = 298 \text{ К}$$

$$m_2 = 15 \text{ кг}$$

$$T_{\text{нн}} = 600 \text{ К}$$

$$\Delta m_1 = 0,1 \text{ кг}$$

$$T_k = 373 \text{ К}$$

$$C_1 = 4190 \frac{\text{Дж}}{\text{кг} \cdot \text{К}}$$

$$C_2 = 130 \frac{\text{Дж}}{\text{кг} \cdot \text{К}}$$

$$r = 2,25 \cdot 10^6 \frac{\text{Дж}}{\text{кг}}$$

$$\lambda = 30 \cdot 10^3 \frac{\text{Дж}}{\text{кг}}$$

Найти:  $t$  - ? К.

CU



$$Q = Q_1 + Q_2 + Q_3 + Q_4.$$

$$Q_1 = C_1 \cdot m \cdot T_1$$

$$Q_2 = C_2 \cdot m_2 \cdot T_{\text{нн}}$$

$$Q_3 = \Delta m \cdot r$$

$$Q_4 = m_2 \cdot \lambda.$$

$$Q = Q_4 + Q_3.$$

$$Q_4 = C_2 \cdot m_2 \cdot t.$$

$$Q_3 = C_1 \cdot (m - \Delta m_1) \cdot t.$$

$$Q = 4190 \cdot 19,09 \cdot t + 130 \cdot 15 t = 81560 t.$$

$$81560 t = 4190 \cdot 20 \cdot 298 + 130 \cdot 15 \cdot 600 + 0,1 \cdot 2,25 \cdot 10^6 + 15 \cdot 30 \cdot 10^3 =$$
$$= 24972400 + 1080000 + 225000 + 450000 =$$

$$81560 t = 26524900$$

$$t = \frac{26524900}{81560} = 325 \text{ К}.$$

Ответ:  $t = 325 \text{ К}$

205.

№2.

Дано:

$g = 10 \text{ м/с}^2$

$R_3 = 6400 \text{ км}$

$t = 24 \text{ ч} = 86400 \text{ с}$

Найти:  $\frac{r_0}{R_3} = ?$

C4



$T = \frac{1}{43200} = 2 \cdot 10^{-5}$

$g = \frac{M_3}{R_3^2}$

(+) 35

№3.

Дано:

$K = 4 \text{ см} = 0,04 \text{ м}$

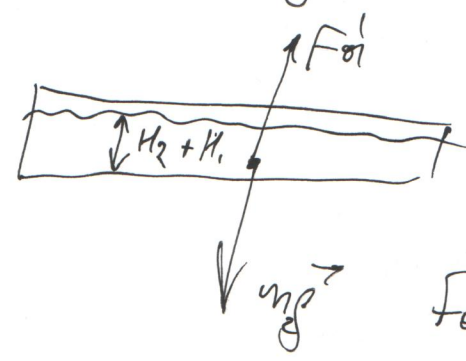
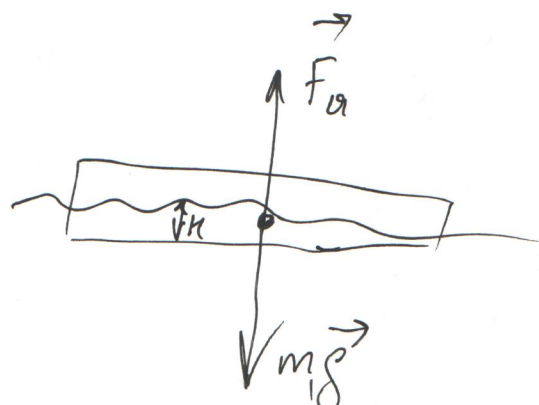
$m_2 = 80 \text{ кг}$

$H_2 = \frac{4}{2}$

$\rho = \rho_3 = 1000 \text{ кг/м}^3$

С<sub>н</sub> = ?

C2



$F_a = V_1 \cdot \rho_x \cdot g$

$F_{a'} = m = \frac{\rho}{V}$

$F_a = m_1 g$

$F_{a'} = (m_1 + m_2) \cdot g$

$F_{a'} = \rho_x \cdot (V_1 + \frac{4}{2} \cdot g)$

(+) 10

Терновик.

БЫЗКАРБ. А.

9 "А"

№1)

Дано:

$m = 4 \text{ кг}$ .

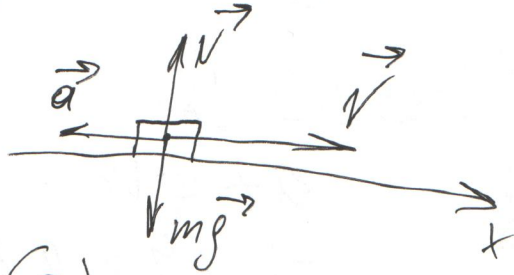
$E_k = 8 \text{ Дж}$ .

$V_k = 0 \text{ м/с}$ .

Найти:  $V_0$  - ?

сч

$E_k = \frac{m V_1^2}{2}$



(0x)  $\Sigma F = \vec{a} m$

$V = -a m$ .

$N - mg = 0$ .

$a = \frac{2S}{t^2}$

$8 = \frac{2 \cdot 4 \cdot V_1^2}{2}$

$4 = V_1^2$

$V_1 = 2 \text{ м/с}$ .

$V = V_0$ .

$a = V_0^2$

$a = \frac{V_0^2 - V_k^2}{2}$

$a = \frac{0 - 2^2}{2}$

$a = -2 \text{ м/с}^2$ .

$V_1 = V_0 + at$

$2 = 0 - 2t$

$2 = -2t$

$1 = t$ .

$S = V_0 t + \frac{at^2}{2}$

$S = 2 \cdot 1 - \frac{2 \cdot 1}{2} = 1 \text{ м}$ .

$S_{05} = 2 \text{ м}$ .

$a = -2 = \frac{2S}{1}$

$\frac{-2}{1} = \frac{2S}{1}$

$2S = -2$

$S = 1 \text{ м}$ .

~~2.8~~

$$a = \frac{2s}{t^2}$$

$$\sqrt{\frac{2s}{a}} = t$$

$$t = 1,4 \text{ c.}$$

$$V_0 = 2,8$$

$$V_k = 0$$

$$t = 1,4$$

$$a = -2 \text{ m/c.}$$

$$2s = a \cdot t$$

$$V = V_0 + at$$

$$S = 2,8 \cdot 1,4 + \frac{-2 \cdot 1,4^2}{2}$$

$$0 = V_0$$

$$at = -V_0$$

$$S = 3,92 - 1,96$$

$$-2 \cdot 1,4 = -2,8 \text{ m/c.}$$

Objekt: 2,8 m/c.

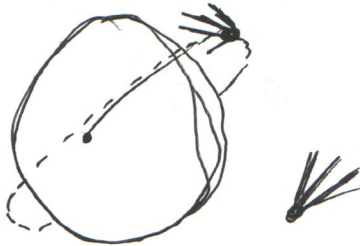
Dano:

$$\rho = 10 \text{ m/c}^2$$

$$R_3 = 6400 \text{ km.}$$

$$t = 2t_2 = 86400 \text{ c.}$$

$$t_1 = \frac{t_2}{2} = \frac{86400}{2} = 43200 \text{ c.}$$

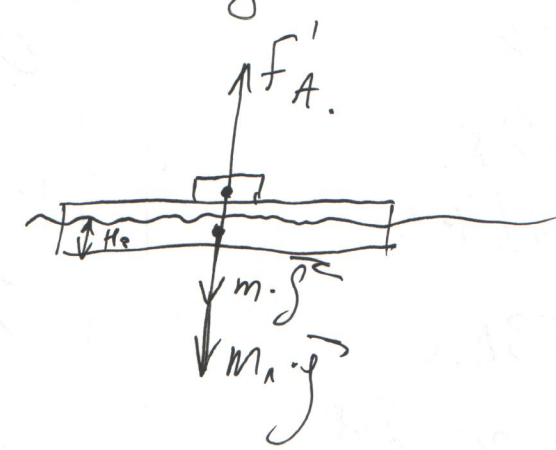
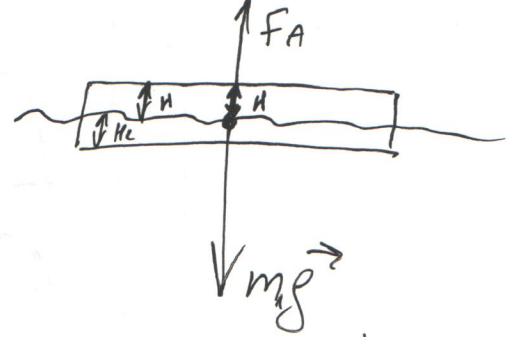
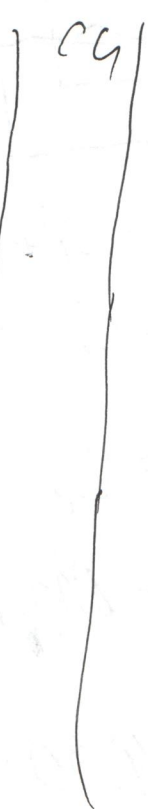


$$T = \frac{1}{43200} = 2 \cdot 10^{-5} \text{ c.}$$

$$\frac{r_0}{r_3}$$

$v = 3$ ,  
 $H = 4 \text{ cm} = 0,04 \text{ m}$ .  
 $m_z = 80 \text{ kg}$ .  
 $H_2 = \frac{H}{2}$   
 $\rho = \rho_B = 1000 \frac{\text{kg}}{\text{m}^3}$

Найти:  $S_1 - ?$



~~$F_A = \rho_k \cdot V_T \cdot m g$~~   
 ~~$F_A = \rho_k \cdot \frac{H_2}{2} \cdot S - \frac{H_2}{2} \cdot S \cdot \rho_k$~~   
 ~~$F_A = H \cdot H_2 \cdot \rho_k \cdot S^2$~~   
 $F_A = \rho_k$

$F_A = \rho_k \cdot V_T \cdot m g$   
 $F'_A = \rho_k \cdot (V_T + \Delta Q)$   ~~$(m_1 + m_2)$~~   
 $m = \frac{\rho}{V}$

$F_A = m_1 g$   
 $F'_A = (m_1 + m_2) g$   
 $(m_1 + m_2) \cdot g = \rho_k \cdot (V_T + \Delta Q) \cdot (m_1 + m_2)$

$F'_A = \rho_k \cdot V'_T \cdot g$   
 $V'_T = V_T + \frac{H}{2} \cdot S$   
 $F'_A = \rho_k \cdot (V_T + \frac{H}{2} \cdot S) \cdot g$

~~\*\*\*~~

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$$T_k = 373 \text{ К.}$$

$$c_1 = 4190 \frac{\text{Дж}}{\text{кг} \cdot \text{К}}$$

$$c_2 = 130 \frac{\text{Дж}}{\text{кг} \cdot \text{К}}$$

$$\Gamma = 2,25 \cdot 10^6 \frac{\text{Дж}}{\text{кг}}$$

$$\lambda = 30 \cdot 10^3 \frac{\text{Дж}}{\text{кг}}$$

Искать:

$$Q = 81560 \text{ т.}$$

$$81560 \text{ т} = 4190 \cdot 20 \cdot 298 + 130 \cdot 15 \cdot 600 + 0,1 \cdot 2,25 \cdot 10^6 + 15 \cdot 30 \cdot 10^3$$

$$24972400 + 1080000 + 225000 + 450000$$

сч



$$Q = Q_1 + Q_2 + Q_3$$

$$Q_1 = c_1 \cdot m \cdot T_1$$

$$Q_2 = c_2 \cdot m_2 \cdot T_{\text{нл}}$$

$$Q_3 = \Delta m_1 \cdot \Gamma$$

$$Q_1 = 4190 \cdot 20 \cdot 298 =$$

$$Q = Q_3 + Q_4$$

$$Q_3 = c_1 \cdot (m - \Delta m_1) \cdot t$$

$$Q_4 = c_2 \cdot m_2 \cdot t$$

$$4190 \cdot 19,9 \cdot t + 130 \cdot 15 \cdot t$$

$$799874 + 1950t$$