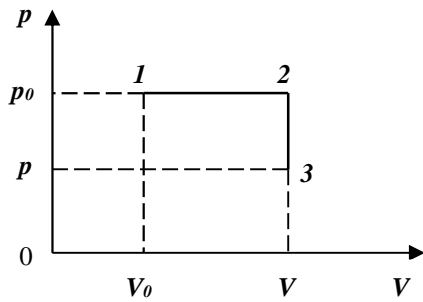


II ( )

10

-3 20 .

1



.1

1-2

$$Q_{1-2} = \Delta U + A = \frac{3}{2} \epsilon R \Delta T + p \Delta V = \frac{5}{2} p_0 (V - V_0) > 0.$$

$$A_{1-2} = p \Delta V = p_0 (V - V_0).$$

2-3

$$: A_{2-3} = 0.$$

$$Q_{2-3} = \Delta U = \frac{3}{2} \epsilon R \Delta T = \frac{3}{2} V (p - p_0).$$

$Q_{2-3}$

$$A = A_{1-2} = p_0 (V - V_0).$$

- 80.

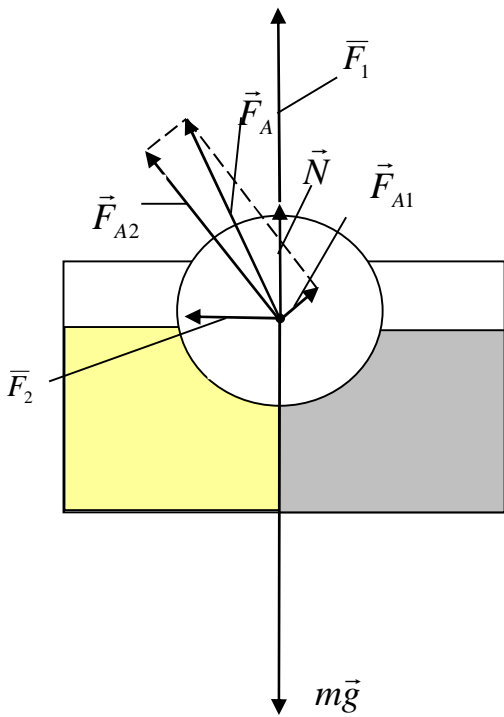
60  
40

20

2

B -

?



$\vec{F}_A$  ( ),  
 $\vec{N}$   
 $\vec{F}_A$   
 $\vec{F}_1$   
 $\vec{N}$   
 $\vec{F}_2$

$$\vec{F}_1 \quad \vec{N}$$

$$(\dots = 13,6 \times 10^3 \text{ / } ^3, \dots = 900 \text{ / } ^3, \dots = 7,8 \times 10^3 \text{ / } ^3) 8$$

- 80.

50

40

20

3

$v_1$

$v_2$

$$\Delta T = 4K.$$

450—

$$v_1 = 2v_2,$$

$$2mv_2 - mv_2 = 2mu$$

$$\frac{4mv_2^2}{2} + \frac{mv_2^2}{2} = \frac{2mu^2}{2} + \Delta U$$

$$\Delta U - \Delta U$$

$$\Delta U = \frac{9mv_2^2}{4}$$

$$\Delta U = 2mc\Delta T = \frac{9mv_2^2}{4}$$

$$v_2 = \sqrt{\frac{8c\Delta T}{9}} = 40 \text{ —} \quad v_1 = 80 \text{ —}$$

- 100.

80  
50  
30

20

4

60%.

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? 2)

( . . . )

, . . . .

80%.

: 1)

r

$$y = \frac{P}{P} = \frac{IU}{IV} = \frac{I^2 R}{I^2 (R+r)} = \frac{R}{(R+r)}$$

$R_1$  . . . .

$y_1$ ,

$R_2$  -  $y_2$ ,

$$y_1 = \frac{R_1}{R_1 + r}$$

$$y_2 = \frac{R_2}{R_2 + r}$$

(1)

$R_1$   $R_2$

$$(R = R_1 + R_2),$$

. . . .

$$y_3 = \frac{R_1 + R_2}{R_1 + R_2 + r}$$

$$\left( R = \frac{R_1 R_2}{R_1 + R_2} \right) \dots$$

$$y_4 = \frac{R_1 R_2}{R_1 R_2 + R_1 r + R_2 r}$$

$$R_1 \quad R_2 \quad (y_1 = 0,6; y_2 = 0,8),$$

$$R_1 = \frac{y_1 r}{1 - y_1} = \frac{3r}{2}, \quad R_2 = \frac{y_2 r}{1 - y_2} = 4r.$$

$$y_3 = \frac{11r/2}{13r/2} = 0,846.$$

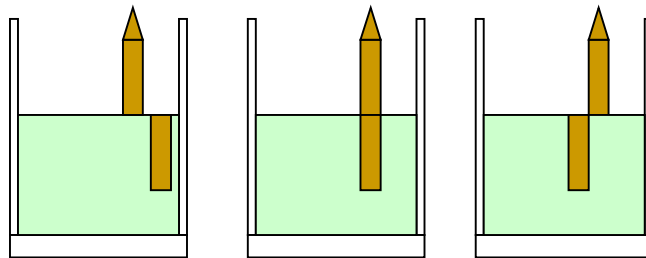
$$y_4 = \frac{R_1 R_2}{R_1 R_2 + R_1 r + R_2 r} = \frac{12r^2}{23r^2} = 0,52.$$

- 100.

80  
50

30

5



.3

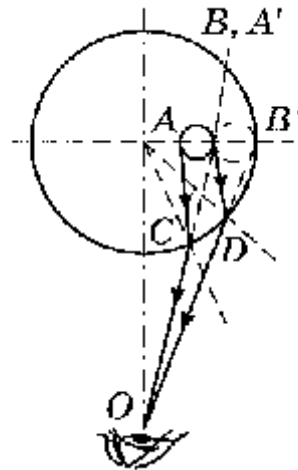
( . . 3),

( , )

4

D

B' ( -



.4.

- 80.

60  
30

15