

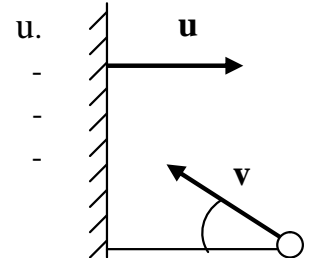
II ( )

9

-3 20

1

(c . ).



$$v = v_0 \sin \alpha,$$

$$v = -(v_0 \cos \alpha + u).$$

« »

$$v = v_0 \sin \alpha, \quad v = (v_0 \cos \alpha + u).$$

u.

$$v = (v_0 \cos \alpha + 2u).$$

$$V_1 = \sqrt{V^2 + V^2} = \sqrt{V_0^2 + 4V_0u \cos \alpha + 4u^2}.$$

- 80.

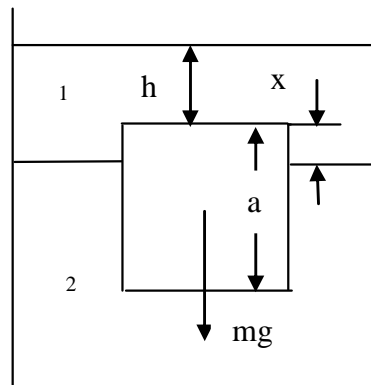
60

20

2

(  $\rho_1 < \rho_2$  ).

?



( . . . ). a x , h -

1)  $mg,$

2)  $F,$

3)  $F.$

$$F = mg + F \quad (1)$$

(1),  $F = \rho_1 g h a^2$   $F = (\rho_1 g x + \rho_2 g (a - x)) a^2$

$$(\rho_1 g x + \rho_2 g (a - x)) a^2 = mg + \rho_1 g h a^2$$

$$mg = \rho g a^3, \quad (\rho_1 g x + \rho_2 g (a - x)) a^2 = \rho g a^3$$

$$x (\rho_1 - \rho_2) = a (\rho - \rho_2) \quad x = a (\rho_2 - \rho) / (\rho_2 - \rho_1)$$

$$V = a^2 x \quad V / V = x / a = (\rho_2 - \rho) / (\rho_2 - \rho_1)$$

- 100.

80

30

3

$$m = 10$$

$$t = - 10^\circ$$

$$Q = 20$$

/( . . ).

$$L = 2,3$$

$$= 4,2 \quad / ( . . ) = 2,1$$

$$= 0,33 \quad / ,$$

1)

$$Q_1 = c m (0^\circ C - t) = c m t = 0,21$$

2)

$$Q_2 = \lambda m = 3,3$$

3)

$$Q_3 = m c \Delta t = 4,2$$

4)

$$Q_4 = 20 - (4,2 + 3,3 + 0,21) = 12,29$$

$$Q_5 = m L = 23$$

$$Q_5 > Q_4$$

$$\Delta m: \quad \Delta m = Q_4 / L = 5,34$$

$$M = m - \Delta m = 10 - 5,34 = 4,66 ( . ).$$

- 100.

80

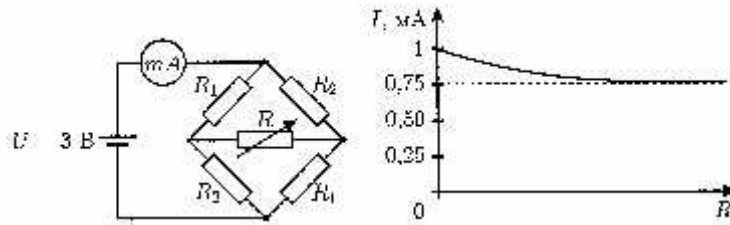
40

4

$$U = 3 \text{ V}$$

R.

$R_1$   $R_2$ .



4.

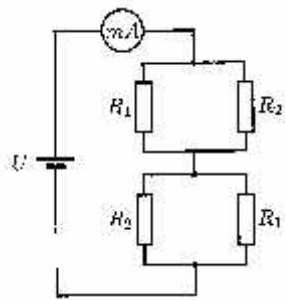
$R = 0$

.1.

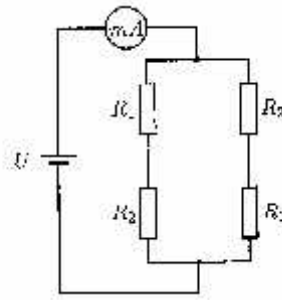
$R$ ,

$R$ .

.2.



.1



.2

$$r_1 = \frac{2R_1R_2}{R_1 + R_2}$$

$$I_1 = \frac{U(R_1 + R_2)}{2R_1R_2}$$

$$r_2 = \frac{R_1 + R_2}{2}$$

$$I_2 = \frac{2U}{R_1 + R_2}$$

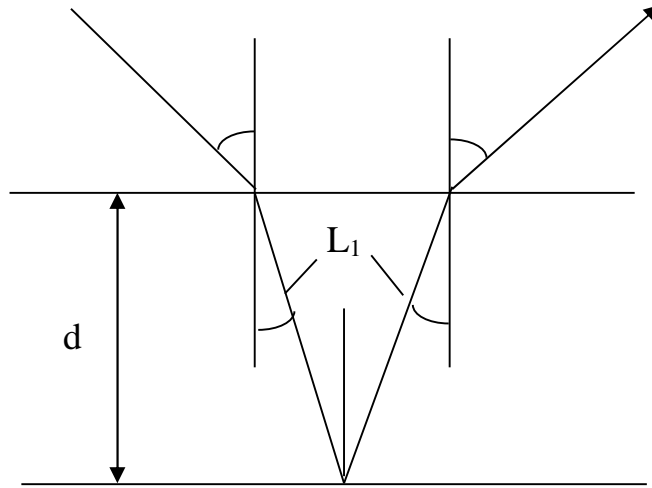
$$R_1^2 - 2U \frac{R_1}{I_2} + \frac{U^2}{I_1 I_2} = 0,$$

$$R_1 = \frac{U}{I_1 I_2} (I_1 \pm \sqrt{I_1(I_1 - I_2)})$$

$$R_1 = 6000 \quad R_2 = 2000$$

- 80.

L  
n.



:

$$\sin \alpha / \sin \gamma = n \quad \sin \alpha = n \sin \gamma$$

L

$$\sin \gamma / \sin \phi = 1/n \quad \sin \phi = n \sin \gamma \quad \phi = \alpha$$

$$L = 2 L_1 \quad L_1 = d / \cos \gamma$$

$$\sin \gamma = \sin \alpha / n \quad \cos \gamma = \frac{\sqrt{n^2 - \sin^2 \alpha}}{n}$$

$$L = \frac{2dn}{\sqrt{n^2 - \sin^2 \alpha}}$$

- 60.

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20

20

,  $\phi = \alpha$ .