

	()
10	
8	
5-6	(,)
5	
2-3	
0-1	(,)
0	

1.

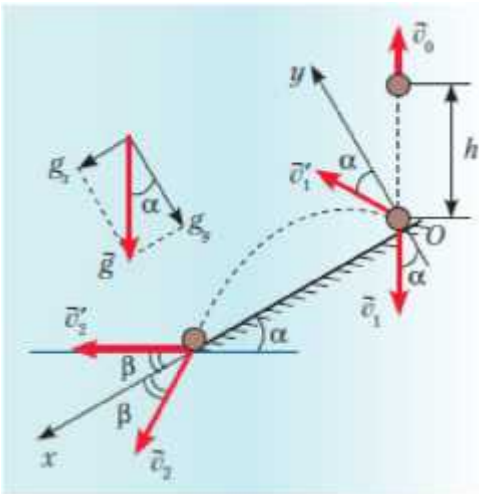
$l = 16$,

$h = 80$

$v_0 = 8$ /
 $= 30^\circ$.

?

$10 / ^2$.



:

$$mgh + \frac{mv_0^2}{2} = \frac{mv_1^2}{2}$$

$$v_1 = \sqrt{v_0^2 + 2gh}$$

$$\begin{cases} x = v_1' \sin \alpha \cdot t + \frac{g \sin \alpha \cdot t^2}{2}, \\ y = v_1' \cos \alpha \cdot t - \frac{g \cos \alpha \cdot t^2}{2}. \end{cases}$$

$$y = 0,$$

$$0 = v_1' \cos \alpha \cdot t_2 - \frac{g \cos \alpha \cdot t_2^2}{2},$$

$$t_2 = \frac{2v_1'}{g} = \frac{2\sqrt{v_0^2 + 2gh}}{g}$$

$$\begin{aligned} s_{12} = x(t_2) &= v_1' \sin \alpha \cdot t_2 + \frac{g \sin \alpha \cdot t_2^2}{2} = \frac{4(v_1')^2}{g} \sin \alpha = \\ &= \frac{4(v_0^2 + 2gh)}{g} \sin \alpha = 16 \text{ м} = L. \end{aligned}$$

$$v_{2x} = v_1' \sin \alpha + g \sin \alpha \cdot t_2 = 3\sqrt{v_0^2 + 2gh} \cdot \sin \alpha,$$

$$v_{2y} = v_1' \cos \alpha - g \cos \alpha \cdot t_2 = -\sqrt{v_0^2 + 2gh} \cdot \cos \alpha.$$

xOy (с . . .):

$$\operatorname{tg} \beta = \frac{|v_{2y}|}{v_{2x}} = \frac{\sqrt{v_0^2 + 2gh} \cdot \cos \alpha}{3\sqrt{v_0^2 + 2gh} \cdot \sin \alpha} = \frac{\cos \alpha}{3 \sin \alpha} = \frac{1}{3 \operatorname{tg} \alpha};$$

$$\beta = \operatorname{arctg} \left(\frac{1}{3 \operatorname{tg} \alpha} \right) = 30^\circ.$$

v_2 :
(. . .),

.....3

..... 3

.....2

..... 2

2.

(. .) .

R,

R/2,

,

,

R/2,

,

,

R/4.

B

.

,

,

E1, E2

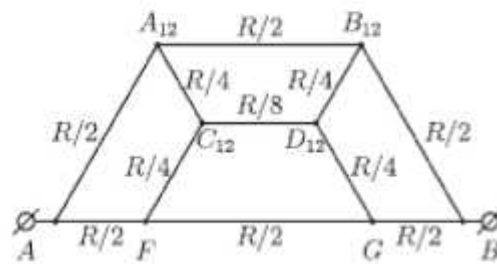
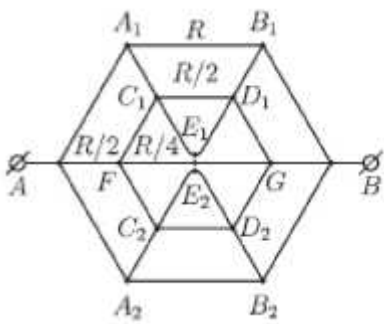
,

,

.

,

.



A2, B1 B2, C1 C2, D1 D2

A1

A12 F, B12 G

13R/20.

	5
	3
	2

3.

.....
 :
 10
 30
 $c_w = 4200$ / , $c_m = 3900$ / , $c_y = 2500$ / ,

(.....):
 $m/2$, $2m/3$, 30
 10

$$30^\circ c_m \frac{2}{3} m + 10^\circ c_y m = \Delta T \left(c_m \frac{2}{3} m + c_y m + c_w \frac{1}{2} m \right),$$

ΔT -

$$\Delta T = \frac{30^\circ c_m (2/3)m + 10^\circ c_y m}{c_m (2/3)m + c_y m + c_w m/2} \approx 14^\circ C.$$

44

-1.

) - 3.

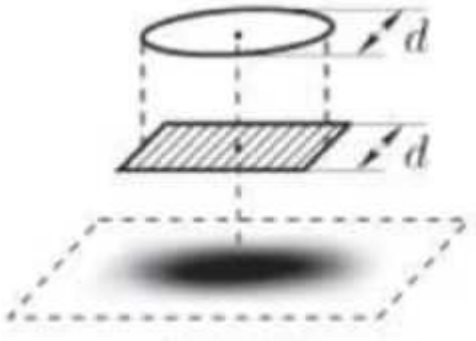
$$\left(\frac{1}{-1} \right) - 5$$

4.

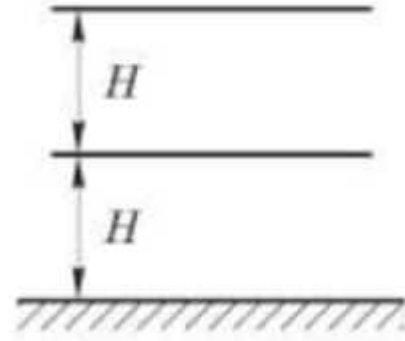
$d=2$.

d (.1).

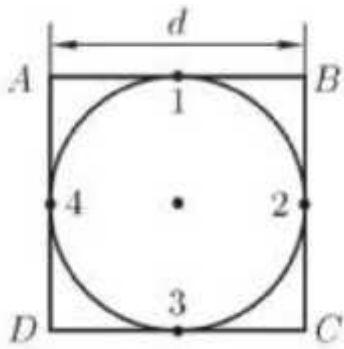
H 3 (.1.1).
?



.1



.1.1



.2

d . , 1
2
 AB . , 3
 CD , 2 4
 BC , DA .
 $ABCD$

$S = d^2 = 4^2$

,
,
..... 2
..... 2

..... 2
1, 2, 3 46