



1-

1-

1-

1-

2-

1.  
 $Q=0,1$

1

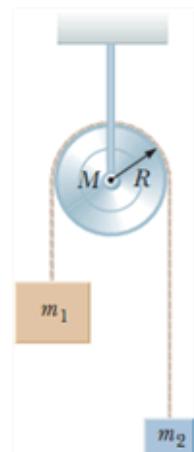
2.  
 $m=6$   
 $x_1=0$

$x_2=2$

$F(x)=2 \cdot x^3$

6.

$m_1=200$        $m_2=20$   
 $M=50$



3.

R

4.       $R = 0,5$

$m = 10$   
 $a = 2,04 \text{ m/s}^2$



7.2

$Q=2,5 \cdot 10^{-8}$

$r_1=5$   
 $r_2=5$

5.       $Q=7$

$m=0,25$

$=36 \text{ N/m}$

8.       $m=2$   
 $x_1=0$        $x_2=2$

$F(x)=(1/x)^3$

9.  $U=100$

10.

$$\mathbf{r}(t) = 7t^3 \mathbf{i} - t \mathbf{j}$$

a)

$$; )$$

; )

$$t_1=12$$

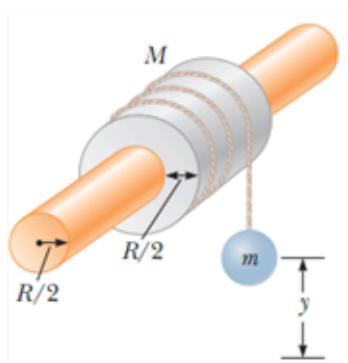
11.  $Q=0,2$

$$=0,6$$

12.

$$12$$

, ?



13. 2 0,1 / 0,2 /

$$F=3,6$$

, ?

$$\mathbf{i} \quad \mathbf{j} \quad \mathbf{x} \quad \mathbf{y}$$

$$14. \quad R = 128 \quad 5$$

$$9 /$$



15.

$$r=5 \\ =1,2 /$$

, ?

$$1$$

16.

$$\mathbf{i} \quad \mathbf{j} \quad \mathbf{x} \quad \mathbf{y}$$

a)

$$; )$$

; )

$$t_1=2$$

17.

$$Q2=-1$$

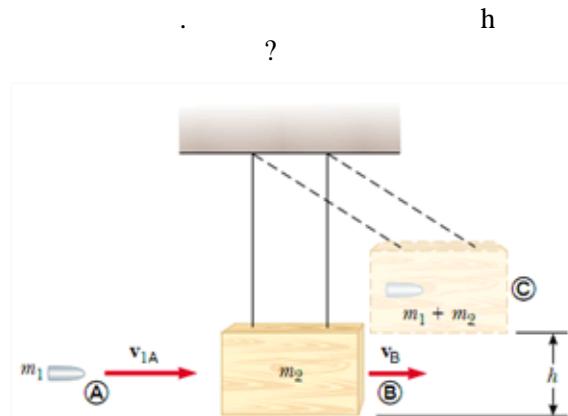
$$QI=+2$$

$$2$$

$$r=4$$

?

18.  $m = 10$   
 $M = 5$



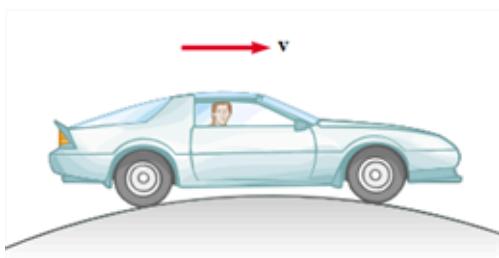
19.  $r=6$

$F=0.1 \text{ H}$

?

20.  $m = 1000$   
 $R = 50$

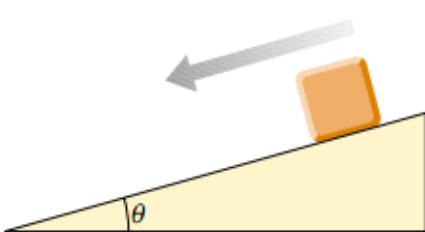
?



21.  $R=2$   
 $Q=4$

?

22.



$=45^\circ$

$l = 2$

$t = 2$

23.  $R$

$(\text{m/s}^2)$

$t$   
 $a_n = n a$   $(\text{m/s}^2)$

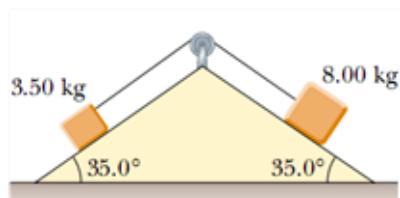
:  $a = 5$ ,  $n = 1.5$ ,  $t = 2 \text{ s}$ .  $R$

24.  $2$   
 $3.5$        $8$

$=35^\circ$

$\cos 35 = 0.81$

$\sin 35 = 0.57$ ,



25.

$0,1$       /       $0,2$       /

$3,6$

?

26.  $m=6$   
 $x_1=0$

$F(x)=2 \cdot x^2$   
 $x_2=4$

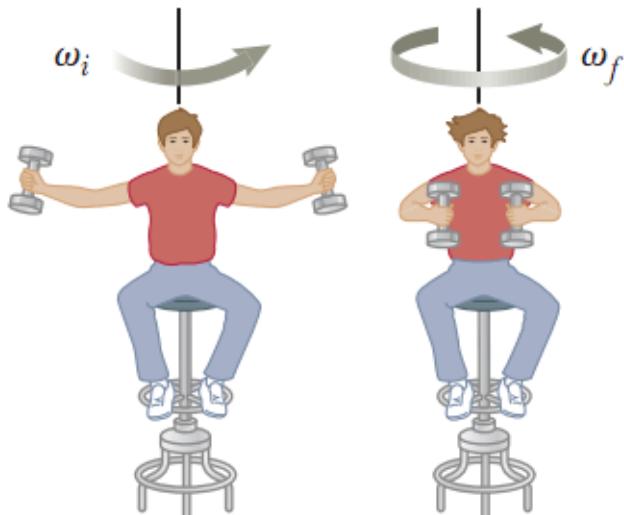
27.  $Q_1=+1$ ,  $Q_2=-2$ ,  $Q_3=+3$   
 $, Q_4=-4$   
 $=10$

29.  
 $y(t)=t^2+2t^3$

$x(t)=2t-t^3$   
 $t_1=0.2$

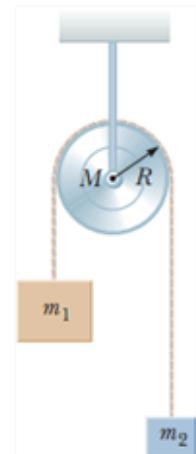
28.  
 $5$   
 $- 1,5$   
 $15$   
 $\times 2$   
 $120$

$J = 10$



a ————— b

30.  $m_1 = 200$   
 $m_2 = 20$   
 $M = 50$   
 $?$



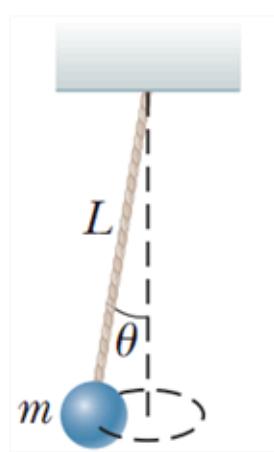
31.  $m=1$   
 $600$

$Q=10-8$

$20$  /  
 $?$

32.

$$L = 5 \quad , \quad m = 70$$



?

35.

$$r(t) = 3t^3 \mathbf{i} - 8t^2 \mathbf{j}$$

$$\mathbf{i} \quad \mathbf{j} \quad x \quad y$$

a)

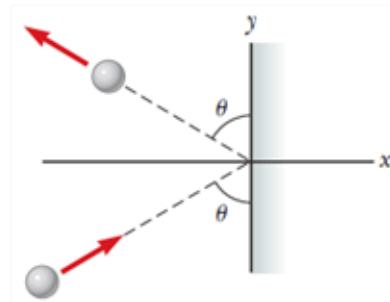
$$; \quad ;$$

$$t=20$$

36.

$$V = 8 \quad / \\ = 60^\circ$$

$$m = 300$$



33.

$$m=40$$

$$Q=670$$

$$=490$$

34.

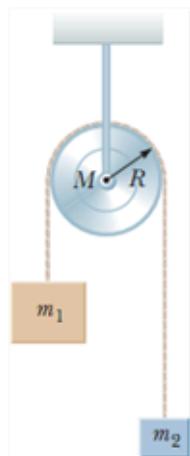
$$m_1 = 200 \quad m_2 = 20$$

$$M = 50$$

$$=100 \quad /$$

37.      m=5

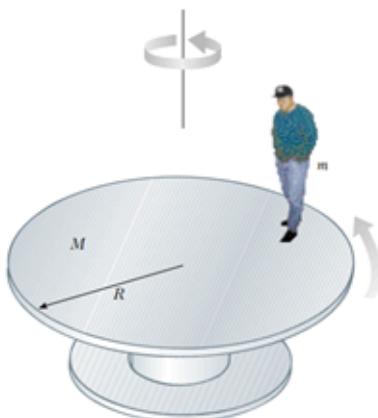
$$Q = +4 \times 10^{-8}$$



38.  $R = 1$

$80$

?  
2.



39.  $(=4)$

$2$

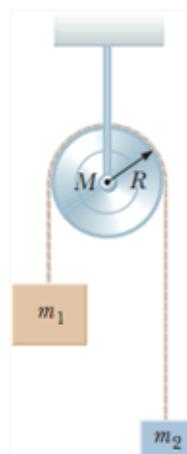
$Q=3,2 \times 10^{-5}$

40.

$m_1 = 200$

$m_2 = 30$

$2 / ^2$



6 41.

$r(t) = t^2 \mathbf{i} + 3t^2 \mathbf{j}$

a)  
; )

$t=10$

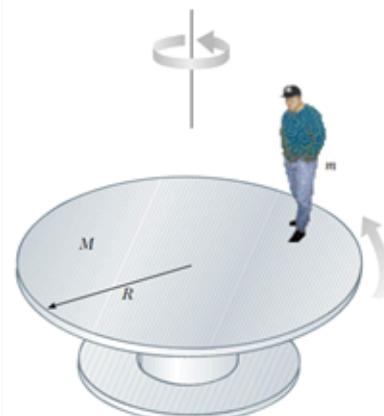
42.

$8 /$

$d = 2$

$70$

$10 /$



43.

$S = A + Bt + Ct^2 + Dt^3$   
 $= 0,14$ ,  $D = 0,01$ .

$/ ^2$

?

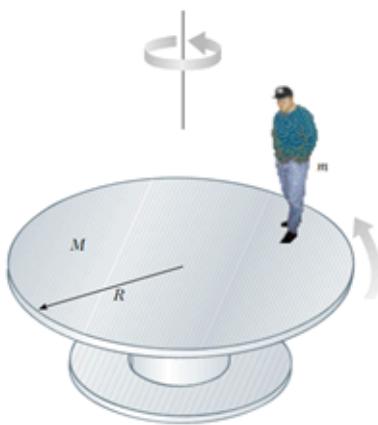
1  
1  
?

44.

15 /

25 /

70

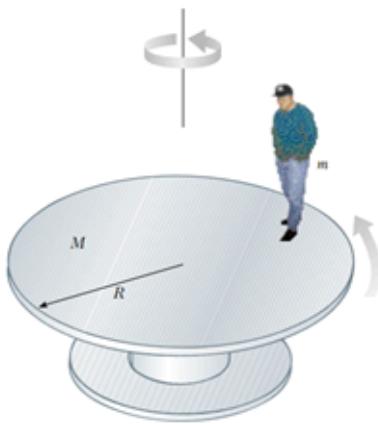


45.

=1,2 r=5  
/

15 /

25 /



70

?

47.

r=60

F<sub>1</sub>=70

F<sub>2</sub>=160

q<sub>1</sub> q<sub>2</sub>

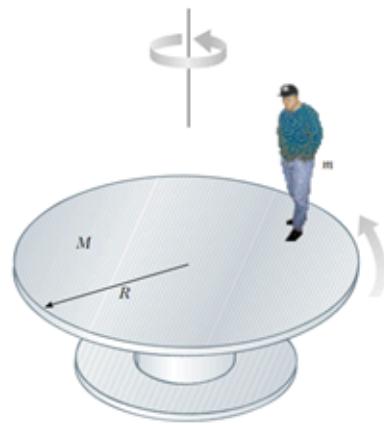
48. R = 1,5

180

10

/ 60

?



49. 2

4  
2

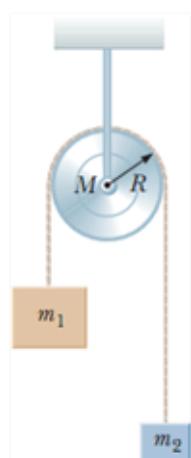
?

50.

$$m_1 = 200$$

$$m_2 = 20$$

$$M = 50$$



51.

$$5$$

$$R = 128$$

$$9 \quad /$$



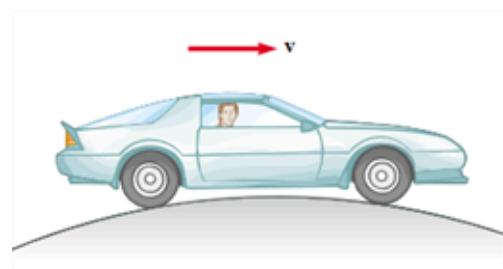
52.

$$50$$

$$m = 1000$$

$$R =$$

?



53.

$$R = 1$$

$$6 \quad /$$

$$80$$

$$?^2$$

$$J = 120$$

54.

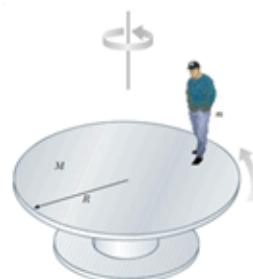
$$\mathbf{r}(t) = 3t^3 \mathbf{i} - 8t^2 \mathbf{j}$$

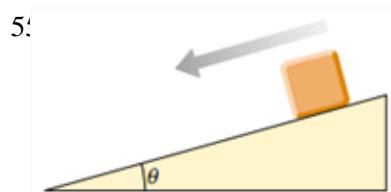
a)

$$; \quad )$$

$$; \quad )$$

$$t=20$$





$$= 45^\circ$$

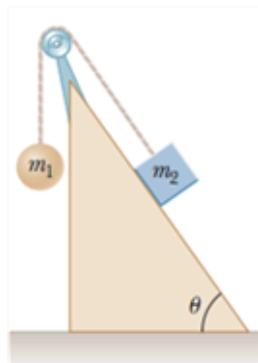
$$\mu = 0,03$$

?

56.

$$45^\circ$$

2



5920 270



60.

$$r(t) = t\mathbf{i} + t^2\mathbf{j}$$

y

(x,y,z)

;

$$t_1=2$$

57.

$$F_1=120$$

$$r_1=5$$

$$r_2=10$$

$$F_2=15$$

58.

$$\begin{matrix} 3/4 \\ V_2=90 \end{matrix} / \quad V_1=60 \quad / \quad ,$$

$\langle V \rangle$