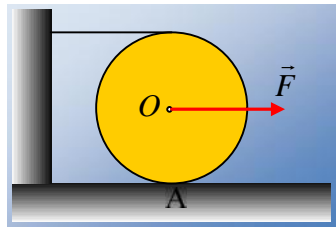


**Ο τροχός και το τυλιγμένο νήμα.**

$m = 20\text{kg}$   $R = 0,4\text{m}$   $F = 12\text{N}$   
 $t_0 = 0$

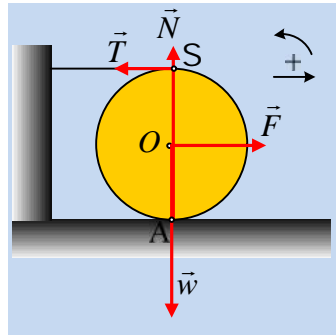


i)  $t = 0$   
 ii)  $t_1 = 2\text{s}$   
 iii)  $\mu = 0,2$

$r_{cm} = \frac{1}{2} R^2$

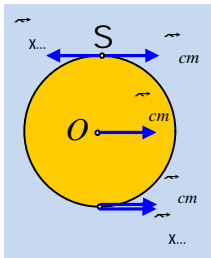
$g = 10\text{m/s}^2$

i) ...



$F_x = \dots$   
 $R = \frac{1}{2} R^2$  (2)

...  $a_{cm} = \dots$



$$\frac{d^2 \hat{r}_{cm}}{dt^2} = \frac{d(\ddot{S}R)}{dt} = \frac{d\ddot{S}}{dt} R \rightarrow$$

$$a_{cm} = a_{x\ddot{S}\epsilon} \cdot R \quad (3)$$

(2)  $= \frac{1}{2} \cdot \dots$   
 (1) (2)  $\mu \dots$

$$F = \frac{3}{2} M a_{cm} \rightarrow a_{cm} = \frac{2F}{3M} = \frac{2 \cdot 12}{3 \cdot 20} m/s^2 = 0,4 m/s^2.$$

$$(3): a_{x\check{S}\epsilon} = \frac{a_{cm}}{R} = \frac{0,4}{0,4} rad/s^2 = 1 rad/s^2$$

ii) μ t<sub>1</sub>=2s

$$v_{cm} = a_{cm} \cdot t_1 = 0,4 \cdot 2 m/s = 0,8 m/s,$$

$$\omega = \alpha \cdot t_1 = 1 \cdot 2 rad/s.$$

μ :

)

μ

μ

:

$$a_{cm} = 0,4 m/s^2.$$

)

μ

:

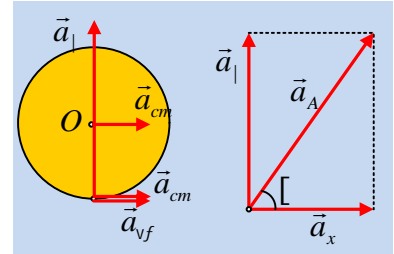
1)

$$( \mu \mu )$$

μ

μμ

) μ



$$a_{vf} = \frac{d(\check{S}R)}{dt} = a_{x\check{S}\epsilon} R = 0,4 m/s^2$$

2)

μ

μ

μ

:

$$= \omega^2 \cdot R = 2^2 \cdot 0,4 m/s^2 = 1,6 m/s^2.$$

μ :

$$a_A = \sqrt{a_x^2 + a_y^2} = \sqrt{(0,4 + 0,4)^2 + 1,6^2} m/s^2 = 0,8\sqrt{5} m/s^2$$

$$\mu \mu, \quad v_{w_n} = \frac{a_y}{a_x} = 2.$$

iii)

μ

μ

μ

,

-

μ, μ

μ

μ F

μ

,

μμ

.

μ

μ .

μ

-

;

,

μ

-

,

μ μ :

$$= \mu \cdot \mu \cdot g = 0,2 \cdot 20 \cdot 10 = 40$$

μ

μ

μ

,

μ

12 !!!

μ :

$$F_x = 0 \quad F - \dots = 0 \quad (1)$$

$$= 0 \quad \cdot R - \cdot R = 0 \quad = \quad (2)$$

(1)

(2)

μ :

$$F=2 \quad = \frac{1}{2} F= 6$$

**Υλικό Φυσικής - Χημείας.**  
Επειδή το να μοιράζεται η γνώση, είναι καλό για όλους....

μ