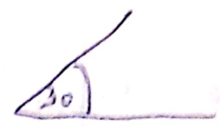
Sebastian ... 20

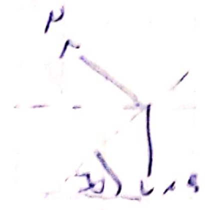
Pregunta 1

Wfinal: ΔE

Wroce: μ · 49 cos 37 · 3 · -1

= -60 μ





ΣFy = 0

N = 49 cos 30

h = 3 sen 3...

h = 1,5

$E_F = K^0 + U_g$

$E_F = M \cdot g \cdot h$

$E_F = 5 \cdot 10 \cdot 1,5$

$E_F = 75$

$E_F = K \cdot V_f^2$

$E_F = \frac{1}{2} \cdot 5 \cdot 8^2$

$E_F = 160$

ΔE = 75 - 160

ΔE = -85

ΔE = Wroce

$\frac{-85}{-170} = \mu$

$\mu_k = 0,70$

Sebastián Juarez 2°E

Pregunta 2 $P_{ix} = P_{Fx}$

$2m \cdot 8 m/s = m \cdot 20 \cos 37 + m \cdot v \cos\theta$

$P_{iy} = P_{Fy}$

$0 = m \cdot 20 \operatorname{sen} 37 + m v \operatorname{sen}\alpha$

$$v_y = \frac{-10 \operatorname{sen} 37}{\operatorname{sen}\alpha}$$

$$16 m = m\left(20 \cos 37 - \frac{20 \operatorname{sen} 37}{\operatorname{sen}\theta} \cdot \cos\theta\right) \qquad \frac{\cos}{\operatorname{sen}} = tg$$

$$16 = 20 \cos 37 - \frac{20 \operatorname{sen} 37}{tg\,\theta}$$

$$\frac{20 \operatorname{sen} 37}{tg\,\alpha} = 20 \cos 37 - 16$$

$$tg\,\theta = \frac{20 \operatorname{sen} 37}{16 - 20 \cos 37} \simeq 441$$

$tg^{-1} = 441$

$tg\,\alpha = 89{,}8° \simeq 90°$

$$v = \frac{-20 \operatorname{sen} 37}{\operatorname{sen} 90} = +12{,}03 \text{ m/s}$$

~~Segunda bola es +12,03 m/s.~~

S. [signature]

Sebastian Jerez

Prueba Parte 2

$16 = 20 \cos 32 + v \cos 89°$

$v_x = 12.29$

$v = \sqrt{v_x^2 + v_y^2}$

$v = \sqrt{12,29^2 + 12,05^2} = 17,2 \text{ m/s}$

Sebastian Jerez

Pregunta 3

a) $v_t = \omega \cdot r \Rightarrow 10,44 = \omega \cdot 0,4$

$\omega = 26,1$ rad/s

$\omega = \frac{\theta}{t} \Rightarrow \frac{26,1 \cdot 30}{2\pi} = 125$ vueltas

b) $\omega = \frac{\Delta\theta}{\Delta t} = \omega = \frac{783,4 \text{ rad}}{30} = \omega = 26,1$

$\omega = 26,1$ rad/s

c) $\omega_1 \cdot r_1 = \omega_2 \cdot r_2$

$\omega_1 = \frac{26,1 \cdot 0,4}{0,1}$

$\omega = 104$