

Martín Aguilera 2 E

$$3) d = 374$$

$$v = w \cdot R \quad 10,46 = w \cdot 0,4 \quad w = 26,15 \frac{\text{rad}}{\text{s}}$$

$$a) t = 30$$

$$R_1 = 0,10 [\text{m}]$$

$$2\pi \cdot 0,4 = \text{Perimetro} = 2,513 [\text{m}]$$

$$R_2 = 0,04 [\text{m}]$$

$$R \cdot v = \frac{374}{2,513} = 124,95$$

$$R_3 = 0,4 [\text{m}]$$

$$\text{div}$$

$$b) v = w \cdot R \quad w = \frac{10,46}{0,4}$$

$$26,15 \frac{\text{rad}}{\text{s}} / \text{decima} \quad w = 26,2 \frac{\text{rad}}{\text{s}}$$

$$c) \bar{w} = \frac{\Delta \theta}{\Delta t} \quad \bar{w} = \frac{124,95}{30} \quad \bar{w} = 4,16 \text{ rad}$$

hml

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FECHA: / /

① $m = 5 \text{ kg}$

$V_i = 8 \frac{\text{m}}{\text{s}}$

$V_f = 0$

$d = 3$

$\alpha = 30^\circ$

$\mu = ?$

$\Delta E = W_{fr}$

$U_g - K = W_{fr}$

$(m \cdot g \cdot h) - \left(\frac{1}{2} \cdot m \cdot V^2\right) = F_r \cdot d \cdot \cos(180^\circ)$

$(5 \cdot 10 \cdot 3 \cos(30^\circ)) - \left(\frac{1}{2} \cdot 5 \cdot 8^2\right) = \mu \cdot 5 \cdot 10 \cdot \cos(30^\circ) \cdot 3 \cdot -1$

$75 - 160 = -129,90 \text{ k}$

$0,65 = \mu \text{ k}$

② $V = 20 \frac{\text{m}}{\text{s}}$

$\theta = 37^\circ$

$P_{0x} = P_f x$

$m \cdot 8 = m \cdot (20 \cos 37^\circ) + m V_{Bx} \cos \theta$

$8 - (20 \cos 37^\circ) = V_{Bx} \cos \theta$

$\frac{-7,98}{\cos \theta} = V_{Bx} = \frac{-7,98}{56,5} = 14,45$

$P_{0y} = P_f y$

$0 = m \cdot (20 \sin 37^\circ) + m V_{By} \sin \theta$

$-20 \sin 37^\circ = V_{By} \sin \theta$

$V_{By} = \frac{-12,04}{\sin \theta} = \frac{12,04}{\sin 56,5} = 14,43$

$\tan \theta = \frac{12,04}{7,98} = 56,5^\circ$

$V_f = \sqrt{14,45^2 + 14,43^2}$
 $V_f = 20,42 \frac{\text{m}}{\text{s}}$

fin

RHEIN