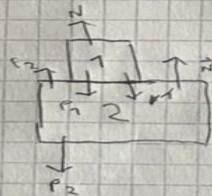


$$2) \text{ MASA } 1 = 2 \text{ Kg}$$

$$P_{SO1} = 20 \text{ N}$$

$$\text{MASA } 2 = 4 \text{ Kg}$$

$$P_{SO2} = 40 \text{ N}$$



$$\mu_c = 0,2$$

$$\mu_c = 0,4$$

$$F_{\text{max}} = 20 \text{ N} \cdot 0,4 = 8 \text{ N}$$

$$F_{\text{max}} \text{ (cuerpo 1)} = (20 \text{ N} + 40 \text{ N}) \cdot 0,4 = 24 \text{ N}$$

$F_{\text{max}} = 8 \text{ N}$ , MAXIMO SIN QUE DESLICE EL CUERPO 1

3)

$$W_{\text{FUERZAS}} = \Delta E_C$$

$$D = \frac{2,8 \text{ m}}{\sin 30^\circ} = 5,6$$

$$W_{\text{ENC}} + W_{\text{EP6}} = \Delta E_C$$

$$P \cdot 0,55 \cdot D$$

$$M \cdot g \cdot 0,55 \cdot \cos 30^\circ \cdot 5,6 \text{ metros} + M \cdot g \cdot 2,8 \text{ m} = \frac{1}{2} M \cdot V_F^2 - V_i^2$$

$$70(-26,67) + 28 = \frac{1}{2} V_F^2$$

$$2 \cdot 54,67 = V_F^2$$

$$\sqrt{109,34} = V_F$$

$$10,45 \text{ ms} = V_F$$

$$1,33 \cdot 2 = V_F^2$$

$$\sqrt{2,66} = V_F$$

$$1,63 \text{ ms} = V_F \rightarrow \text{PUNTO B}$$

NOTA

3 y 4)

$$\Delta E_{(B-C)} = \frac{1}{2} m (v_B^2 - v_C^2)$$

$$W_{FAC} = \frac{1}{2} m \left[ \left(0,5 \frac{m}{s}\right)^2 - \left(0,63 \frac{m}{s}\right)^2 \right]$$

$$M. G. 0,55 \cos 180^\circ \cdot D = \frac{1}{2} m (-2,40 \text{ m/s}^2)$$

$$\frac{70 \text{ m}}{s^2} \cdot 0,55 \cdot (-1) \cdot D = -1,20 \text{ Joules}$$

$$-5,5 \cdot D = -1,20$$

$$D = 0,21 \text{ N/m}$$

4)  $|A| = 3$

$$F = 10 \text{ cm}$$

2 casos = Lente CV Objeto



Lente foco y 2 foco

Lente CV Objeto

Lente foco y lente

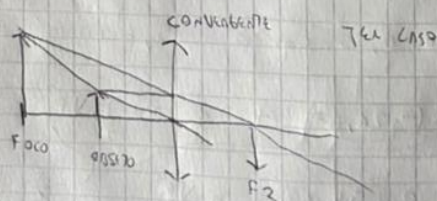
$$\frac{x'}{x} = 13 \quad x' = 13x$$

$$\frac{39}{13x} - \frac{1}{10} = \frac{1}{10}$$

$$\frac{3}{x} = \frac{1}{10}$$

$$20 = x$$

$$x = 6,66 \text{ cm}$$





4)

HOJA N°  
 FECHA

2 do caso  $\Rightarrow$  imagen invertida  $\Rightarrow A = -3$

$$\frac{x'}{x} = -3$$

$$x' = -3x$$

$$\frac{2}{3x} + \frac{1}{3x} = \frac{1}{70}$$

$$\frac{3}{3x} + \frac{1}{3x} = \frac{1}{70}$$

$$\frac{4}{3x} = \frac{1}{70}$$

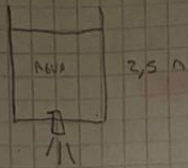
$$40 = 3x$$

$x = 13,3 \text{ cm}$

$\downarrow$   
Distancia al foco

5)

5)



$$Q = 200 \frac{\text{cm}^3}{\text{seg}}$$

$$A_m \text{ on } f, c, i, o = ?$$

S. R. D. N. =

T. Bernoulli

$$200 \frac{\text{cm}^3}{\text{seg}} = A \cdot V$$

$$\downarrow$$

$$0.0002 \frac{\text{m}^3}{\text{seg}}$$

$$P_m + \frac{1}{2} \rho v^2 + \rho g h = P_m + \frac{1}{2} \rho \frac{0.0002^2}{A_m^2} + 0$$

cancelar A 0

$$\frac{1000 \text{ kg}}{\text{m}^3} \cdot 10 \text{ m} \cdot 2.5 \text{ m} = \frac{1}{2} \cdot \frac{0.0002^2}{A_m^2} \cdot \frac{1000 \text{ kg}}{\text{m}^3}$$

$$\frac{25000 \text{ kg} \cdot \text{m}}{\text{m}^3 \cdot \text{s}} =$$

$$25000 \frac{\text{kg}}{\text{m} \cdot \text{s}} = \frac{1}{2} \left( \frac{0.0000004}{A_m^2} \right) \cdot \frac{1000 \text{ kg}}{\text{m}^3}$$

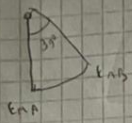
$$\left( \frac{0.00004}{A_m^2} \right) \cdot \frac{1}{2}$$

$$50.000 \frac{\text{kg}}{\text{m} \cdot \text{s}} = \frac{0.00004}{A_m^2}$$

$$50.000 \cdot A_m^2 = 0.00004$$

$$A_m = \frac{\sqrt{0.00004}}{\sqrt{50000}} = \frac{0.02}{223.60} = 8.94 \times 10^{-5} \text{ m}^2$$

6)



$$R = 50 \text{ cm}$$

$$M_{AB} = 0,3 \text{ kg}$$

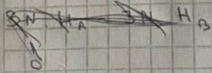
$$0,5 \text{ m} \cdot \pi \cdot 2 = \text{longitudinal calculation}$$

$$E_{AB} = E_{AB}$$

$$E_{AB}(R) = E_{AB}(0) + E_{AB}(1)$$

$$l = 3,74 \text{ m} \cdot 0,03 \cdot \frac{1}{12} = 0,009$$

$$H_{AB} = 0,669 \text{ m} \cdot 0,03$$



$$-3N \cdot H_{AB} = \frac{1}{2} M (V_f^2 - V_i^2)$$

$$-3N \cdot H_{AB} + \vec{F} \cdot \vec{D} = \frac{1}{2} M (0,316)$$

$$-3N \cdot H_{AB} + \vec{F} \cdot \vec{D} = 0,15$$

$$-3N \cdot (0,0669 \text{ m}) + \vec{F} \cdot 0,26 \text{ m} = 0,15 \text{ Joules}$$

$$-10 \cdot 0,20 + \vec{F} \cdot 0,26 \text{ m} = 0,15$$

$$\vec{F} \cdot 0,26 = 0,35$$

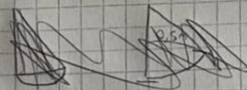
$$\vec{F} = 1,35 \text{ N} \rightarrow$$

inverso =

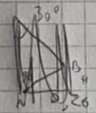
$$\vec{F} \cdot \vec{D} = \Delta R$$

$$1,35 \text{ N} \cdot 0,26 \text{ m} = 0,3516 \text{ J} - 0,26 \text{ J} = 0,0916 \text{ J}$$

$$1,35 \text{ N} = 0,3516 \text{ J} - 0,26 \text{ J}$$



$$0,26 = 0,009$$



$$\cos 30 = \frac{6}{50} \text{ cm}$$

$$\frac{\sqrt{3}}{2} \cdot 50 = 43,30$$

$$50 - 43,30 = 6,69 \text{ cm}$$

$$0,0669 \text{ m} \cdot 0,03$$

6)

$$V = 2 \text{ m/s}$$

$$D = 0,26 \text{ m}$$

$$T = \frac{D}{V} \Rightarrow 0,13 \text{ segundos}$$

$$\text{impulso} = 7,34 \text{ N} \cdot 0,13 \text{ seg}$$

$$\Rightarrow 0,9542 \frac{\text{N}}{\text{s}}$$

↓  
impulso