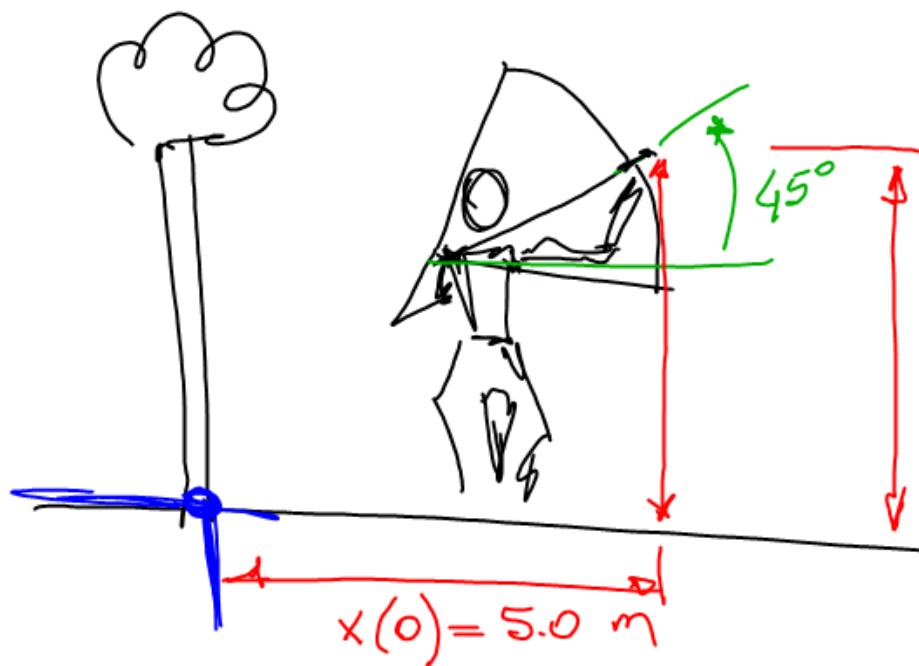


PROBLEMA ARCO Y FLECHA

FLECHA # 8 $P = 0.035 \text{ kg}$ $L = 0.73 \text{ m}$

PROBLEMA: CINEMÁTICO "TIRO PARABÓLICO"
DINÁMICO "MASA-RESORTE"

$y \uparrow$ TIRO PARABÓLICO.



$$\frac{d^2 y}{dt^2} = -\text{gravedad}$$

EDO(2) L cc NH

$$y(0) = 2$$

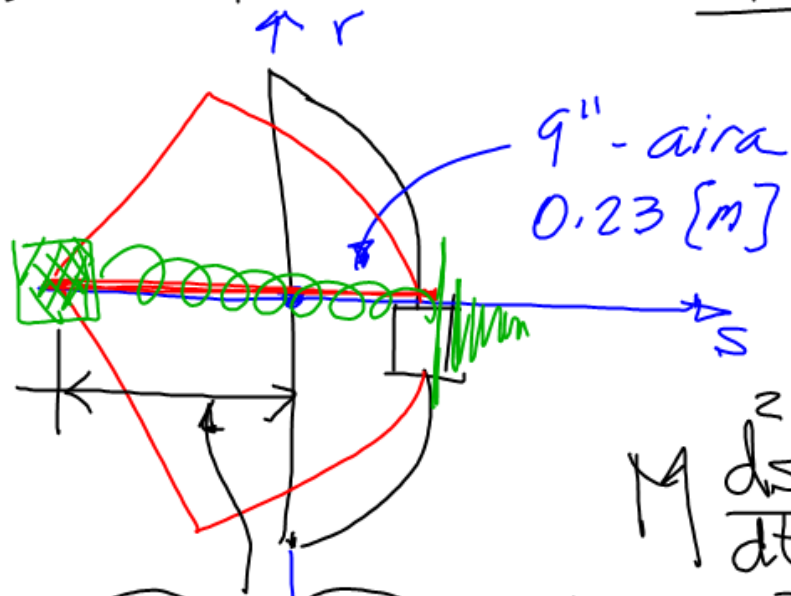
$$y'(0) = V_0 \sin\left(\frac{\pi}{4}\right)$$

$$\frac{dx}{dt} = V_0 \cos\left(\frac{\pi}{4}\right)$$

$$x(0) = 5$$

EDO(1) L cc NH

MASA - RESORTE Hooke.



$$\frac{H}{M} = \frac{11.5}{0.3}$$

$$M \frac{d^2 s}{dt^2} = F$$

$$M \frac{d^2 s}{dt^2} = -Hs$$

$$\frac{d^2 s}{dt^2} = -\frac{H}{M} s$$

$$\frac{d^2 s}{dt^2} + \frac{H}{M} s = 0$$

$$EDO(2) LCC H$$

$$s(0) = L_f - 0.23$$

$$s'(0) = 0$$

$$\left(\frac{\text{kg} \cdot \text{s}^2}{\text{m}} \right) \left(\frac{\text{m}}{\text{s}^2} \right) = - \left(\frac{\text{kg}}{\text{m}} \right) \cdot (\text{m})$$

$$\underline{k_g} = -k_g$$

1	—	0.016	kg	—	0.61	m
2	—	0.015	kg	—	0.61	m
3	—	0.022	kg	—	0.66	m
4	—	0.030	kg	—	0.66	m
5	—	0.029	kg	—	0.70	m
6	—	0.021	kg	—	0.71	m
7	—	0.024	kg	—	0.72	m
8	—	0.035	kg	—	0.73	m
9	—	0.032	kg	—	0.76	m
A	—	0.030	kg	—	0.77	m
B	—	0.032	kg	—	0.80	m