

2)

$$\textcircled{1} \quad \{ m a = \Sigma F$$

$$\left\{ \begin{array}{l} m \cdot a = N - m g \\ m \cdot \ddot{y} = N - m g \end{array} \right\} \text{Aceleración respecto a y}$$

②

$$\left\{ \begin{array}{l} \tau = \vec{r} \times F \\ \tau = I \cdot \alpha \end{array} \right.$$

$$\alpha = \ddot{\theta}$$

$F = N$ } solo la normal genera torque

$I_{\text{centro masa}}$

$$\cdot \ddot{\theta} =$$

$$r \times F$$

} como se toma el punto de referencia como cm

$$= \frac{L}{2} \cdot N \cdot \text{sen}(\theta)$$

$$I_{\text{cm}} \ddot{\theta} = \frac{L}{2} N \text{sen}(\theta)$$

$$1) \quad mgh = \frac{1}{2} m v^2 \quad \} \quad v = \sqrt{2gh}$$

$$e = \frac{v_2}{v_1} = \frac{\sqrt{2gh_1}}{\sqrt{2gh_0}} = \frac{\sqrt{2g} \sqrt{h_1}}{\sqrt{2g} \sqrt{h_0}} = \sqrt{\frac{h_1}{h_0}}$$