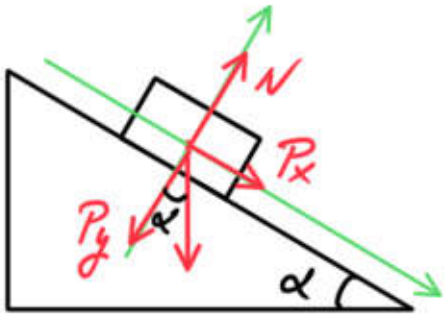
EJERCICIO FQ1BE2688:



masa = m kg
ángulo = α°
gravedad = g m/s²
a = ?

a) ¿aceleración?

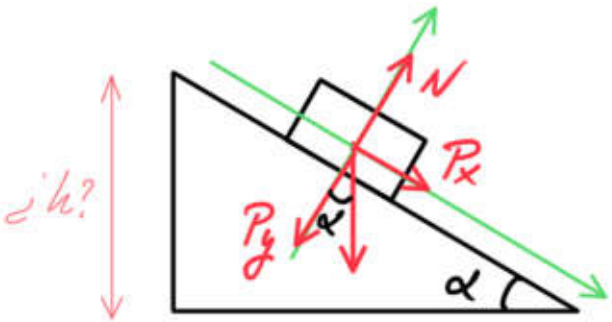
$$\Sigma F_x = m \cdot a$$

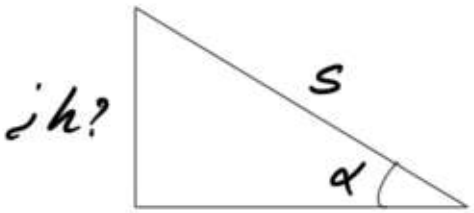
$$P_x = m \cdot a$$

$$m g \operatorname{sen}\alpha = m \cdot a$$

$$\boxed{a = g \cdot \operatorname{sen}\alpha} \ (m/s^2)$$

b) ¿Altura que desciende en t = 1s?





$$\operatorname{sen}\alpha = \frac{h}{s}$$

$$h = s \cdot \operatorname{sen}\alpha$$

$$s = \cancel{s_0}^{\,0} + \cancel{v_0}^{\,0} t + \frac{1}{2} a t^2$$

$$s = \frac{1}{2} g \cdot \operatorname{sen}\alpha \cdot 1^2$$

$$s = \frac{g \cdot \operatorname{sen}\alpha}{2}$$

$$h = s \cdot \operatorname{sen}\alpha = \frac{g \cdot \operatorname{sen}\alpha}{2} \cdot \operatorname{sen}\alpha$$

$$\boxed{h = \frac{g \cdot \operatorname{sen}^2\alpha}{2}} \ (m)$$