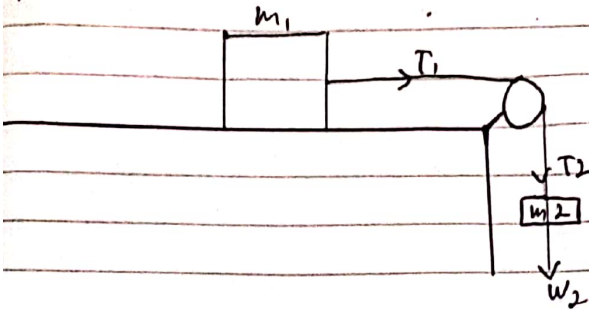


Pesawat ganda

persamaan mekanika newtonian



→ tinjau benda 1

$$\sum F = m \cdot a$$

$$T_1 = m_1 \cdot a$$

$$T = m_1 \cdot a$$

Karena tegangan tali sama besar, maka

$$m_1 \cdot a = w_1 - 2m_2 \cdot a$$

$$m_1 \cdot a + m_2 \cdot a = w_2$$

$$a = w_2 / (m_1 + m_2)$$

⇒ tinjau benda 2

$$\sum F = m \cdot a$$

$$w_2 - T_2 = m_2 \cdot a$$

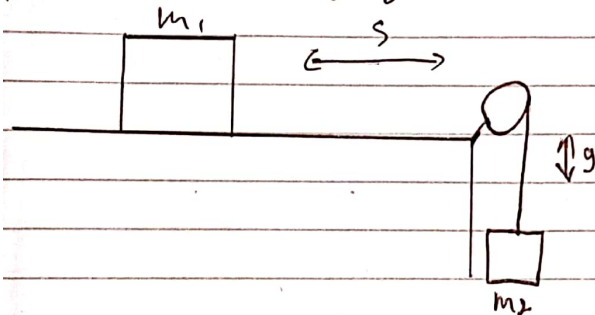
$$T_2 = w_2 - m_2 \cdot a$$

$$T = w_2 - m_2 \cdot a$$

$$a = w_2$$

$$m_1 + m_2$$

persamaan mekanika lagrangen



$$T = \frac{1}{2} m_1 \dot{x}_1^2 + \frac{1}{2} m_2 \dot{y}_2^2$$

$$V = m_1 g y_1 + m_2 g y_2$$

$$\alpha_1 = \frac{dx_1}{dt}$$

$$x_1 = s \Rightarrow \dot{x}_1 = \dot{s}$$

$$y_2 = -(L - s) \Rightarrow \dot{y}_2 = \dot{s}$$

$$T = \frac{1}{2} m_1 (-\dot{s})^2 + \frac{1}{2} m_2 \dot{s}^2 = \frac{1}{2} (m_1 + m_2) \dot{s}^2$$

$$V = m_2 g (s - L)$$

$$L = \frac{1}{2} (m_1 + m_2) \dot{s}^2 - m_2 g (s - L)$$

$\frac{\partial L}{\partial s} = \frac{d}{dt} \frac{\partial L}{\partial \dot{s}} = 0$	$\frac{\partial}{\partial t} \frac{\partial L}{\partial \dot{s}} = (m_1 + m_2) \dot{s}$
$\frac{\partial L}{\partial s} = -m_2 g$	$-m_2 g - (m_1 + m_2) \ddot{s} = 0$
$\frac{\partial L}{\partial \dot{s}} = \frac{1}{2} (m_1 + m_2) \dot{s}$	$\ddot{s} = -\frac{m_2 g}{m_1 + m_2}$