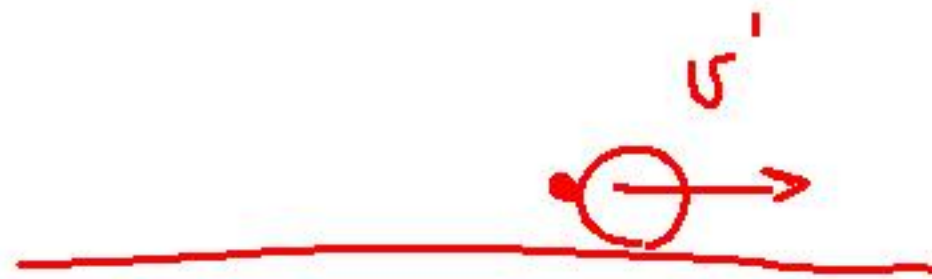


$$m_1 = 10g \quad m_2 = 100g \quad v = 10m/s$$



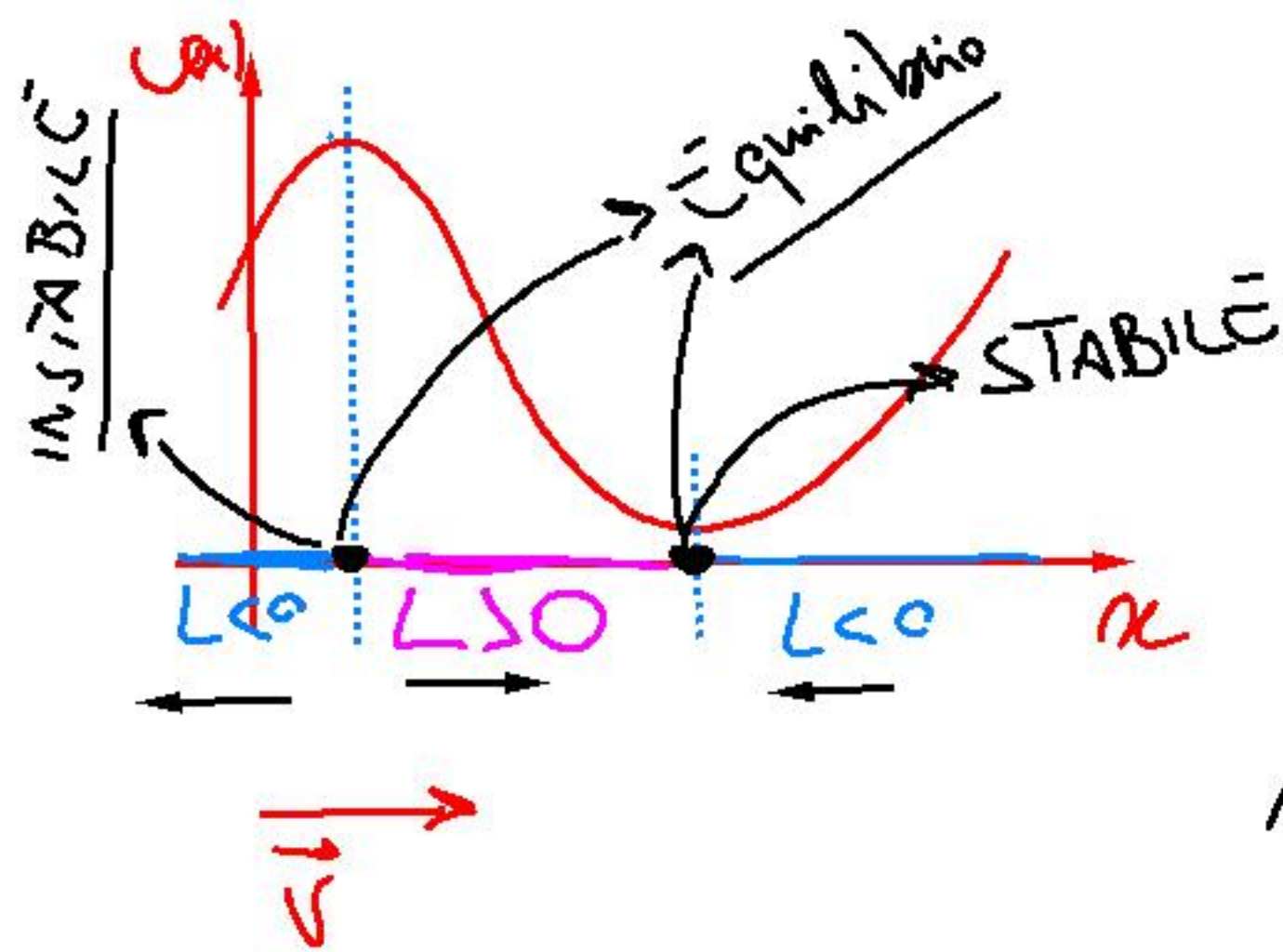
$$m_1 \cdot v = (m_2 + m_1) v'$$

$$v' = \frac{m_1 v}{m_2 + m_1} = \frac{10g \cdot 10m/s}{100g + 10g} = \frac{100}{110g} = 0.9m/s$$

$$T_1 = \frac{1}{2} m_1 v^2$$

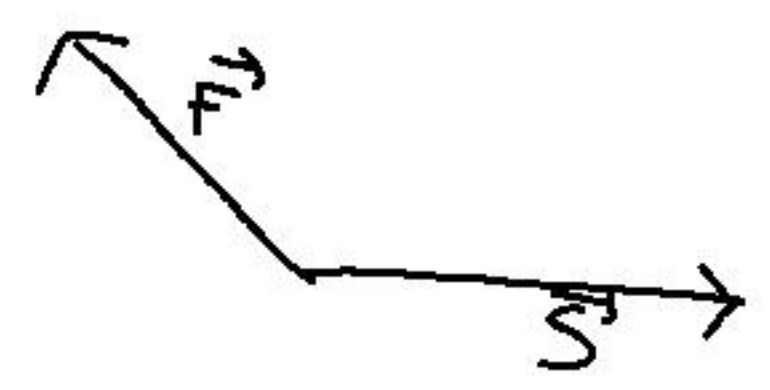
$$T_2 = \frac{1}{2} (m_1 + m_2) v'^2 = \frac{1}{2} (m_1 + m_2) \cdot \frac{m_1^2 v^2}{(m_1 + m_2)^2} = \frac{1}{2} \frac{m_1^2 v^2}{m_1 + m_2}$$

$$\Delta U = 0 \quad \Delta T < 0$$



$$\Delta U = -L$$

$$L = S \cdot F$$



$$L = \vec{F} \cdot \vec{S}$$

$$L = m \cdot a \cdot S$$

$$L = m \cdot \frac{\Delta v}{\Delta t} \cdot \Delta x$$

$$L = \frac{1}{2} m \cdot v^2$$

$$a = \frac{\Delta v}{t}$$

$$S = \Delta x$$

$$(v_2 - v_1)$$

