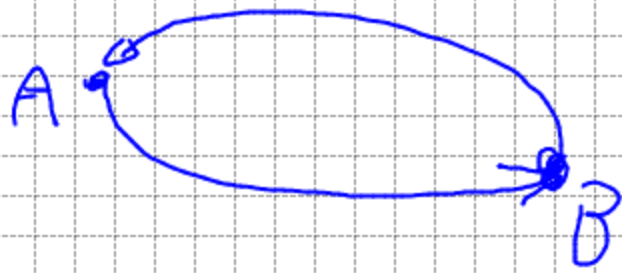


$$L = \vec{F} \cdot \vec{s} \quad L = F \cdot s \cdot \cos \alpha$$



ES 28 PAG 121

$$m_f = 3,5 \text{ t} = 3,5 \cdot 10^3 \text{ Kg}$$

$$v_f = 30 \text{ Km/h} = 8,3 \text{ m/s}$$

$$m_m = 350 \text{ Kg}$$

$$v_m = ?$$

$$E_{cf} = E_{cm}$$

$$\begin{aligned} E_{cf} &= \frac{1}{2} m_f \cdot v_f^2 = \\ &= \frac{1}{2} \cdot 3,5 \cdot 10^3 \text{ Kg} \cdot 6,4 \frac{\text{m}^2}{\text{s}^2} = \\ &= 122 \cdot 10^3 \text{ J} \end{aligned}$$

$$E_{cm} = \frac{1}{2} m_m \cdot v_m^2$$

$$2 E_{cm} = m_m \cdot v_m^2$$

$$\frac{2 E_{cm}}{m_m} = v_m^2$$

$$\begin{aligned} v_m^2 &= \frac{2 \cdot 122 \cdot 10^3 \text{ J}}{350 \text{ Kg}} = \\ &= 697 \frac{\text{m}^2}{\text{s}^2} \end{aligned}$$

$$v_m = 26,4 \text{ m/s} =$$

$$0,0264 \cdot 3600 = 95 \text{ Km/h}$$