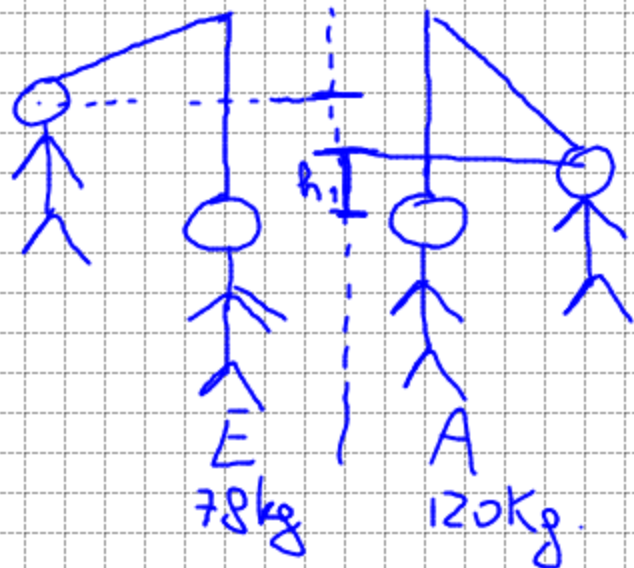


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$$h_1 = 0,65 \text{ m}$$



$$E_{iE} = E_{fE}$$

$$m_E g h_E = \frac{1}{2} m_E v_E^2 \rightarrow h_E = \frac{m_A v_A^2}{2 m_E g}$$

$$m_E v_E + m_A v_A = 0 \rightarrow v_E = - \frac{m_A v_A}{m_E}$$

$$h_E = \frac{\left(- \frac{m_A v_A}{m_E} \right)^2}{2g}$$

$$v_E = - \frac{m_A v_A}{m_E}$$

Per Alessio:

$$E_{iA} = E_{fA} \Rightarrow m_A g h_A = \frac{1}{2} m_A v_A^2$$

$$v_A = \sqrt{2g h_A} = \sqrt{2 \times 9,81 \frac{\text{m}}{\text{s}^2} \times 0,65 \text{ m}} = 3,57 \frac{\text{m}}{\text{s}}$$

$$h_E = \frac{m_A^2 v_A^2}{2g m_E^2} = \frac{(120 \text{ kg})^2 \cdot (3,57 \frac{\text{m}}{\text{s}})^2}{2 \times 9,81 \frac{\text{m}}{\text{s}^2} (78 \text{ kg})^2} =$$

$$= 1,5 \text{ m}$$