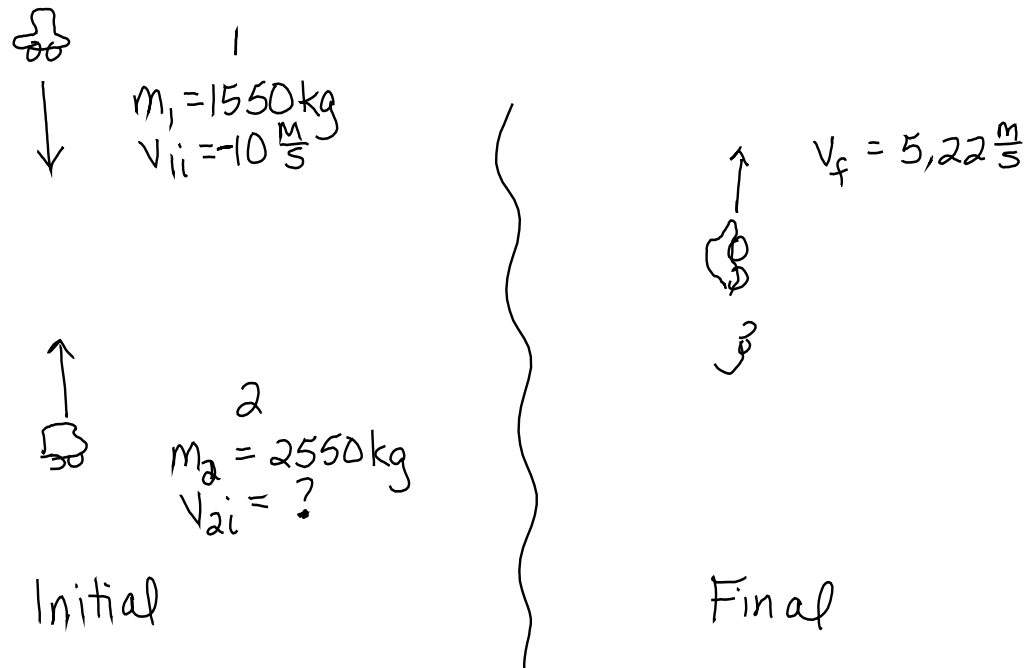


(37)



Perfectly Inelastic:

$$m_1 v_{1i} + m_2 v_{2i} = (m_1 + m_2) v_f$$

$$-m_1 v_{1i} \qquad -m_1 v_{1i}$$

$$\frac{m_2 v_{2i}}{m_2} = \frac{(m_1 + m_2) v_f - m_1 v_{1i}}{m_2}$$

$$v_{2i} = \frac{(m_1 + m_2) v_f - m_1 v_{1i}}{m_2}$$

$$v_{2i} = \frac{[(1550 + 2550) \text{ kg}](5,22 \frac{\text{m}}{\text{s}}) - (1550 \text{ kg})(-10 \frac{\text{m}}{\text{s}})}{2550 \text{ kg}}$$

$$v_{2i} = 14,5 \frac{\text{m}}{\text{s}}, \text{ North}$$