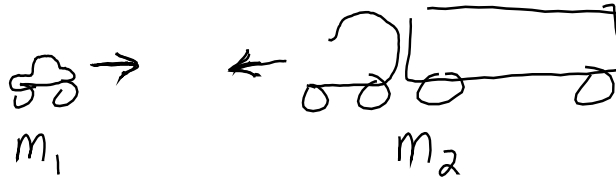


(33)



$$m_2 \gg m_1$$

$$v_{1i} = v_{2i} = v_i$$

$$v_{1f} = v_{2f} = v_f$$

$$\Delta KE = KE_f - KE_i$$

$$\Delta KE = \frac{1}{2} m v_f^2 - \frac{1}{2} m v_i^2$$

$$\Delta KE_1 = \frac{1}{2} m_1 v_f^2 - \frac{1}{2} m_1 v_i^2$$

$$\Delta KE_1 = \frac{1}{2} \underline{m_1} (v_f^2 - v_i^2)$$

$$\Delta KE_2 = \frac{1}{2} \underline{m_2} (v_f^2 - v_i^2)$$

$$\Delta KE_2 \gg \Delta KE_1$$

The truck will have the greater change in KE.

(34)

Elastic

Inelastic

Perfectly Inelastic

- final v 's are different

- final v 's are different

- objects stick + move w/ same final velocity

- momentum is conserved
 $p_i = p_f$

- momentum is conserved
 $p_i = p_f$

- momentum is conserved
 $p_i = p_f$

- KE is conserved
 $KE_f = KE_i$

(See Table 6-2 p. 230)