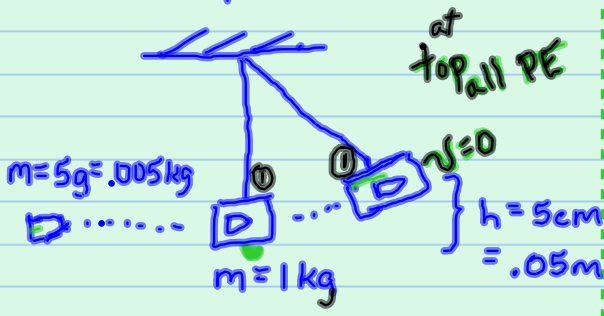


Ex 6.6 p 166



① when bullet is in block

$$\frac{1}{2} m v^2 = mgh$$

$$v = \sqrt{\frac{gh}{.5}} = \sqrt{\frac{9.8(.05)}{.5}} = .99 \frac{\text{m}}{\text{s}} \quad \text{at bottom}$$

inelastic
 p ②

bullet block

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

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

$$= \frac{(.005 + 1)(.99)}{.005} = 199 \frac{\text{m}}{\text{s}}$$

28 p 179 elastic

$$\frac{1}{2} m v^2 = mgh$$

$$m_1 v_{1i} + m_2 v_{2i} = m_1 v_{1f} + m_2 v_{2f}$$

$$v_f = 1.53 \frac{\text{m}}{\text{s}}, \quad v_i = 529 \frac{\text{m}}{\text{s}}$$

$$v_{1i} = \frac{1.00 \dots}{.005} = 199 \frac{\text{m}}{\text{s}}$$

bullet