P # G

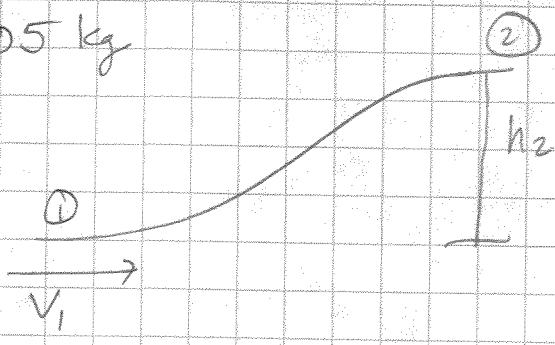
Ch 5

$v_1 = 3.5$ m/s
$h_1 = 0$ m

$W_{friction} = -.238$ J

$h_2 = ?$
$v_2 = 0$ m/s

$m = .05$ kg



$$PE_1 + KE_1 + W = PE_2 + KE_2$$

$$m \cdot g \cdot h_1 + \frac{1}{2} \cdot m \cdot v_1^2 + W = m \cdot g \cdot h_2 + \frac{1}{2} \cdot m \cdot v_2^2$$

$$\cancel{m g 0} + \frac{1}{2}(.05\text{ kg}) \cdot (3.5\text{ m/s})^2 + (-.238\text{ J}) = (.05\text{kg})(9.8) \cdot h + \cancel{0}$$

$$\boxed{h_2 = .14\text{ m}}$$