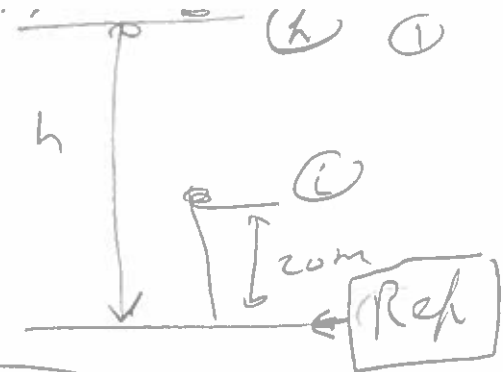


(2) $\Delta u = m g \Delta y$

Referenzen (hormmen)
 $u_h(8)$

$$500 = (2)(9.8)(h - 20)$$

$$h = 46 \text{ m}$$



(3)

$$u = mgh$$

$$= (6.5)(9.8)(3.83)$$

$$u = 18.75 \text{ J}$$

$y = ds$

$$u_c = 10 \sin 60$$

$$u_h = 0$$

$$g = -9.8$$

$$t = ?$$

$$H = ?$$

$$u^2 = u_c^2 + 2gH$$

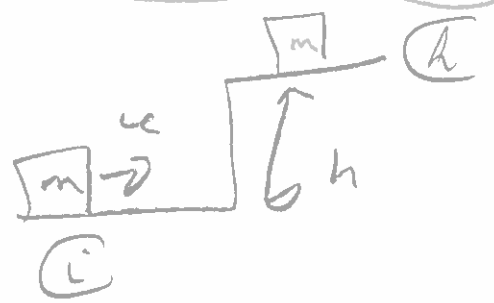
$$0 = 75 + 2(-9.8)H$$

$$\therefore H = 3.83 \text{ m}$$

(4)

$$E_c = E_p$$

$$KE = mgh$$



(2) $E_c = E_p$

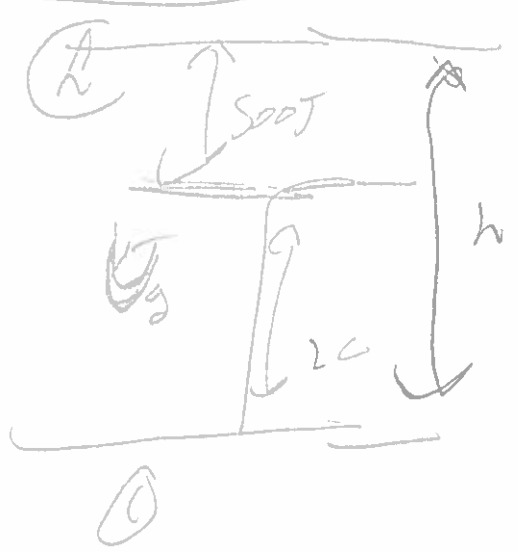
$$500 + u_g = mgh$$

$$500 + mg(20) = mgh$$

$$500 + 400 = mgh$$

$$\frac{900}{9.8(2)} = h$$

$$h \approx 96 \text{ m}$$



(5) $E_i = E_k$

$KE + U|_i = 0 + KE_f$

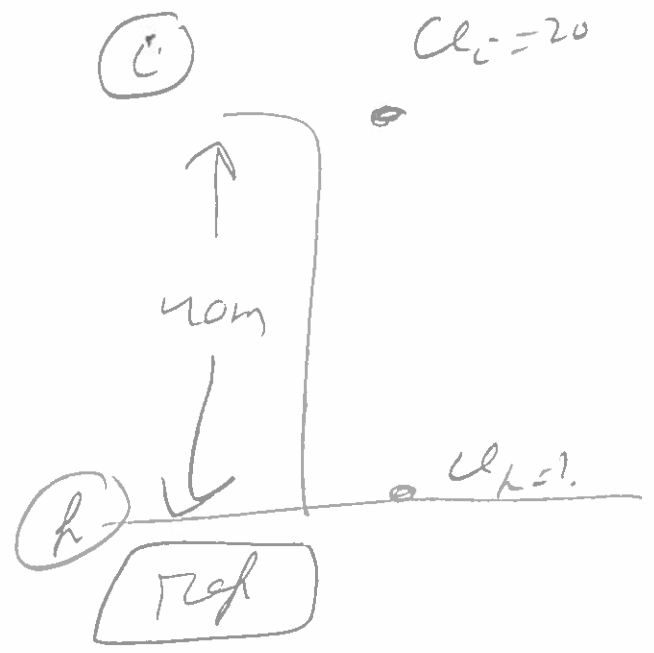
$\frac{1}{2} m v_i^2 + m g (u_i) = \frac{1}{2} m v_k^2$

$u(0) + 8(0) = u_k^2$

$u_k = 34.4 \text{ m/s}$

(2)

$u_i = 20$



(6) $E_i = E_p + E_k$

$158 = 0 + u_g$

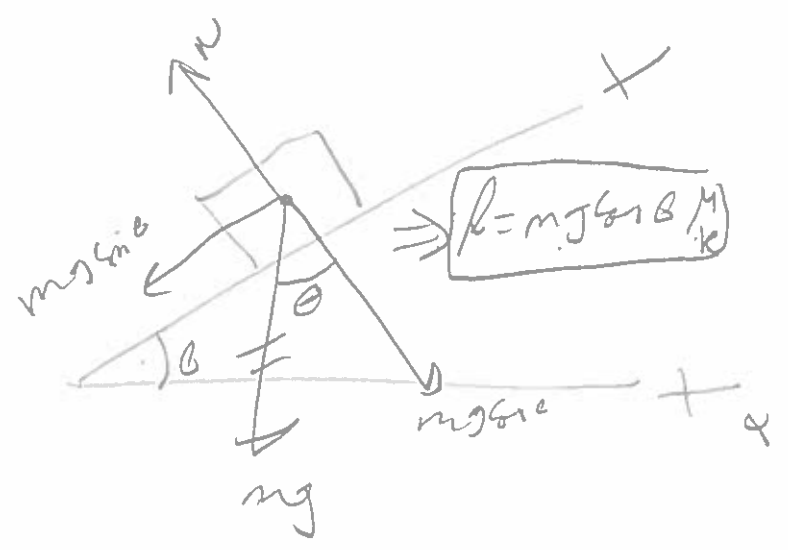
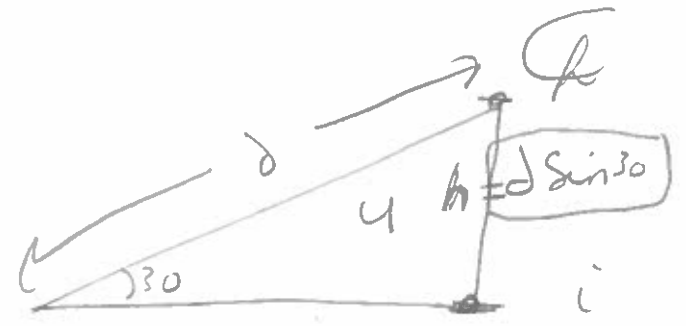
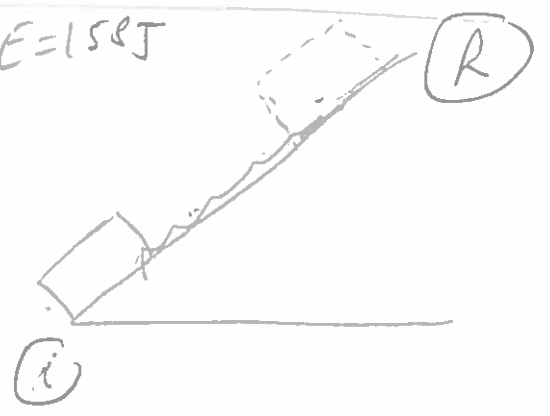
$158 = (0.4) m g \sin 30 + m g d \sin 30$

$158 = 20 + 4(0.4) d$

$158 = 47.8 d$

$d = 3.2 \text{ m}$

$E_i = KE = 158 \text{ J}$



7) $u_i = 0$
 $u_f = 5$

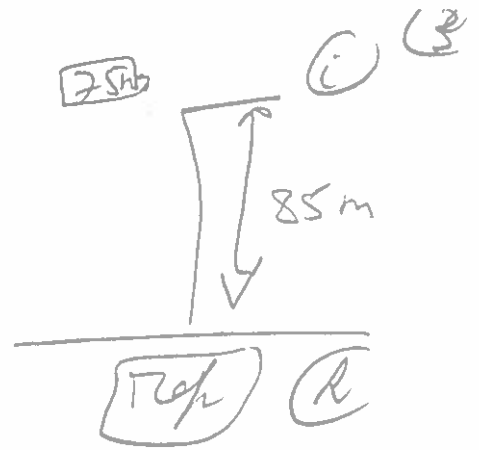
$$E_c = E_k + W_{\text{fric}}$$

$$u + kE \Big|_i = u + kE \Big|_f + W_{\text{fric}}$$

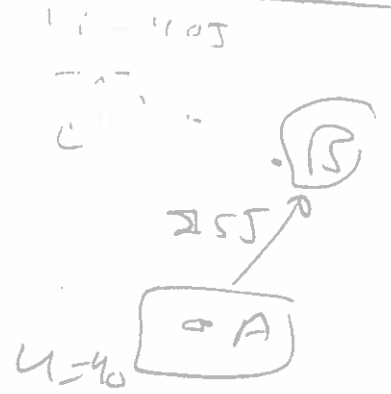
$$0 + kE \Big|_i = 0 + kE \Big|_f + W_{\text{fric}}$$

$$Mg(85) + 0 = 0 + \frac{1}{2}M(5)^2 + W_{\text{fric}}$$

$$62537.5 = W_{\text{fric}} \quad \text{fric} \Rightarrow (-)$$



8) $W = 40 - 25 = 15J$



9) $-W = F \cdot d \Rightarrow -u = F \cdot d$

$$\frac{-u}{d} = F = \frac{40 - 0}{0.4} = 100N$$

10) $E_c = E_k$

$$mgh = (u_s + kE) \Big|_f$$

$$20(9.8)(0.4) = \frac{1}{2}k(0.4)^2 + kE$$

$$78.4 - 30.4 = kE = \frac{1}{2}m u^2$$

$$u = 2.2 \text{ m/s}$$

