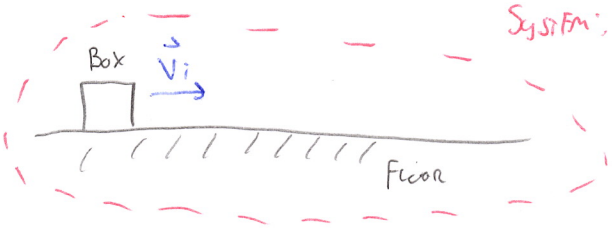
CQ 10.11

SYSTEM: BALL + EARTH + FLOOR

CQ 10.10

$KE \rightarrow \Delta E^{TH}$

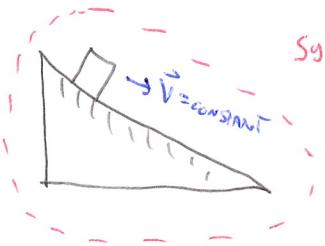


SYSTEM: BOX + FLOOR

$KE_{BOX} \rightarrow \Delta E^{TH}_{BOX + FLOOR}$

CQ 10.9

$U \rightarrow \Delta E^{TH}$

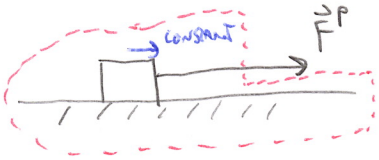


SYSTEM: BOX + EARTH + INCLINE

$U^{g}_{BOX} \rightarrow \Delta E^{TH}_{BOX + INCLINE}$

CQ 10.8

$W \rightarrow \Delta E^{TH}$

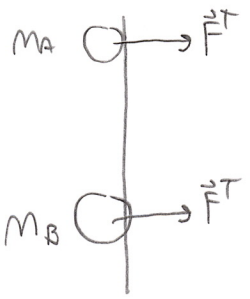


SYSTEM BOX + TABLE

$W^{P} \rightarrow \Delta E^{TH}_{BOX + TABLE}$

CQ 10.14

$m_B = 3m_A$



START

FINISH

$\Delta KE = W_{ext}$

w/ $\vec{v}_i = \vec{0}$

$\Delta KE \rightarrow KE_f$

$KE_F = W_{ext}$

$\frac{1}{2} m v_f^2 = W^T$

$\frac{1}{2} m v_f^2 = \vec{F}^T \cdot \Delta\vec{r}$

w/ $|\vec{F}^T| = \text{const.}$
$|\Delta\vec{r}| = \text{const}$
$\theta = \text{const}$
} $W_A = W_B \rightarrow KE_{AF} = KE_{BF}$

$\frac{1}{2} m_A v_{Af}^2 = \frac{1}{2} m_B v_{Bf}^2$

$m_A v_{Af}^2 = 3 m_A v_{Bf}^2$

$v_{Af}^2 = 3 v_{Bf}^2$

$v_{Af} = \sqrt{3}\, v_{Bf}^2$