

Friction

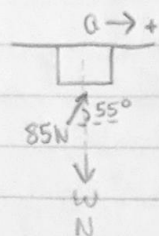
PH III

Direction of f_k is always opposite to \vec{v}

f_s - object will not move unless $F_{app} > f_{smax}$

$$f_{smax} = \mu_s N$$

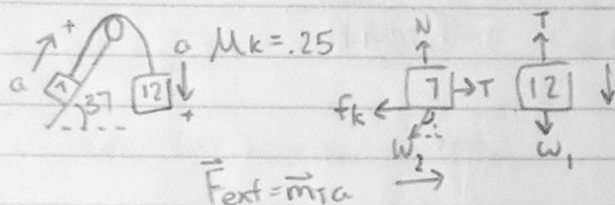
$$\mu_s > \mu_k$$



$$\vec{F}_{net} = m\vec{a}$$

$$\sum F_y = 0 = 85 \sin 55^\circ + N - 9.8(4) \quad N = 30.4 \text{ N}$$

$$85 \cos 55^\circ - \mu_k 30.4 = 4(6) \quad \mu_k = 0.81$$



$$\vec{F}_{ext} = m\vec{a}$$

$$W_{2H} = m_2 g \sin \theta$$

$$W_{2L} = m_2 g \cos \theta$$

$$\sum \vec{F} = W_1 - f_k - W_{2H} = (7+12) \vec{a}$$

$$\vec{a} = 3.3 \text{ m/s}^2$$