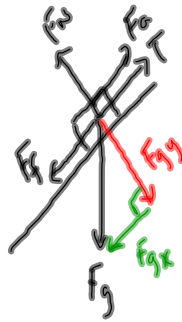
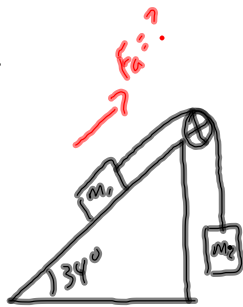


From HW (PP/488-489)

28.



$$m_1 = 725g \Rightarrow F_{g1} = 7.11225N$$

$$m_2 = 595g \Rightarrow F_{g2} = 5.83695N$$

$$\mu_s = 0.47$$

$$\mu_k = 0.12$$

At the instant the system begins to move:

$$F_a + T = F_f + F_{gx}$$

$$F_a + F_{g2} = F_f + F_{gx}$$

$$F_a = F_f + F_{gx} - F_{g2}$$

$$F_a = \mu_s F_N + F_{g1} \sin \theta - F_{g2}$$

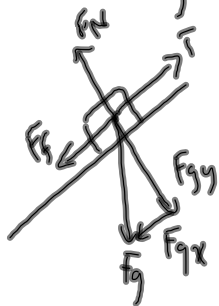
$$F_a = \mu_s F_{g1} \cos \theta + F_{g1} \sin \theta - F_{g2}$$

$$F_a = (0.47)(7.11225N) \cos 34^\circ + 7.11225 \sin 34^\circ - 5.83695N$$

$$a) F_a = 2.2713N + 3.9271N - 5.83695N$$

$$F_a = 0.91N$$

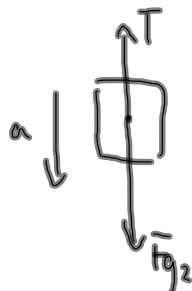
Once moving:



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

$$T - (F_f + F_{gx}) = ma$$

↑ kinetic



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

$$F_{g2} - T = ma$$

Solve the system!

Atwood's Machine

- Title Section
- Preliminary Questions.
- Data/Observations
 - Sample graph (slope + indicate trial)
 - data tables
- Analysis
 - 1 + 2 \Rightarrow show sample calc
 - 3 } GA + state the proportionalities
 - 4 }
 5. Combining proportionalities + find k (average)
 - Sample calc for k
 - final equation
- Extensions
 1. Derive a general expression for acc from FBD
 2. Use excel to find theoret. acc and % error
 3. unknown. \rightarrow graph showing acc.
+ calculations