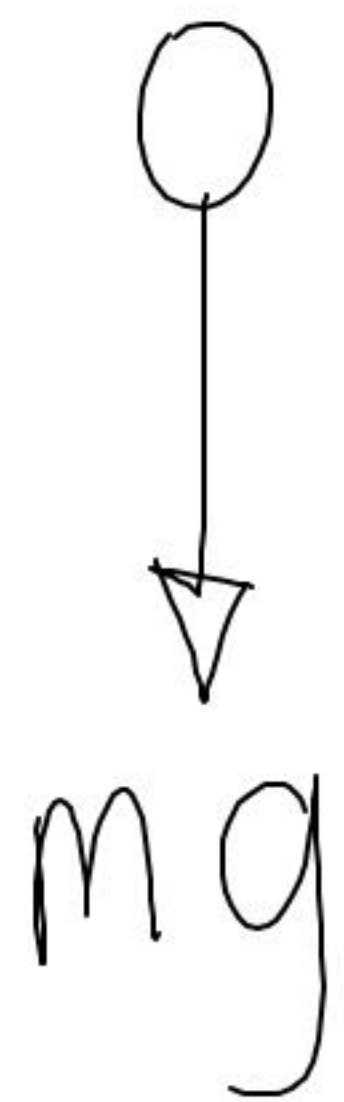


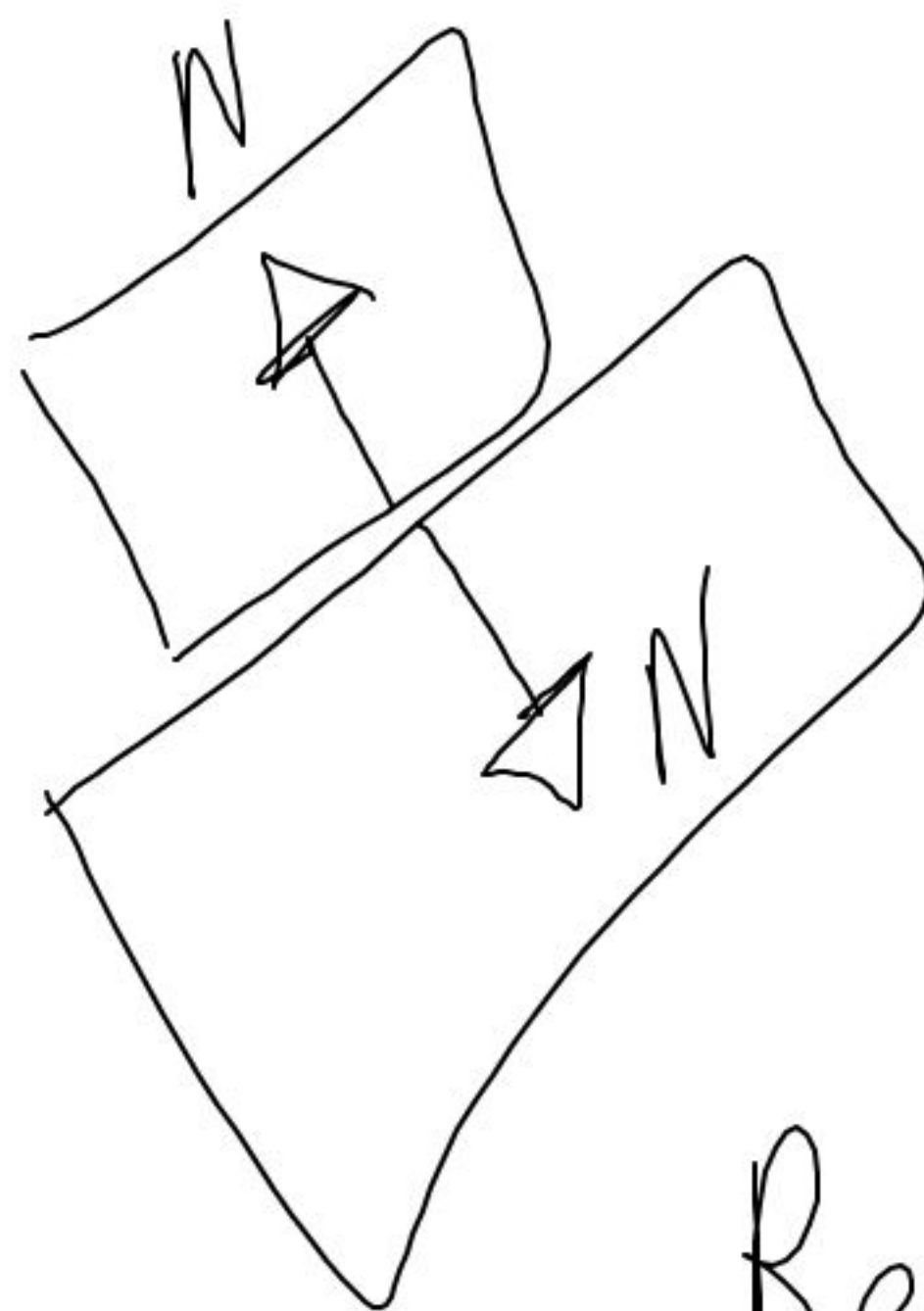
Gravity



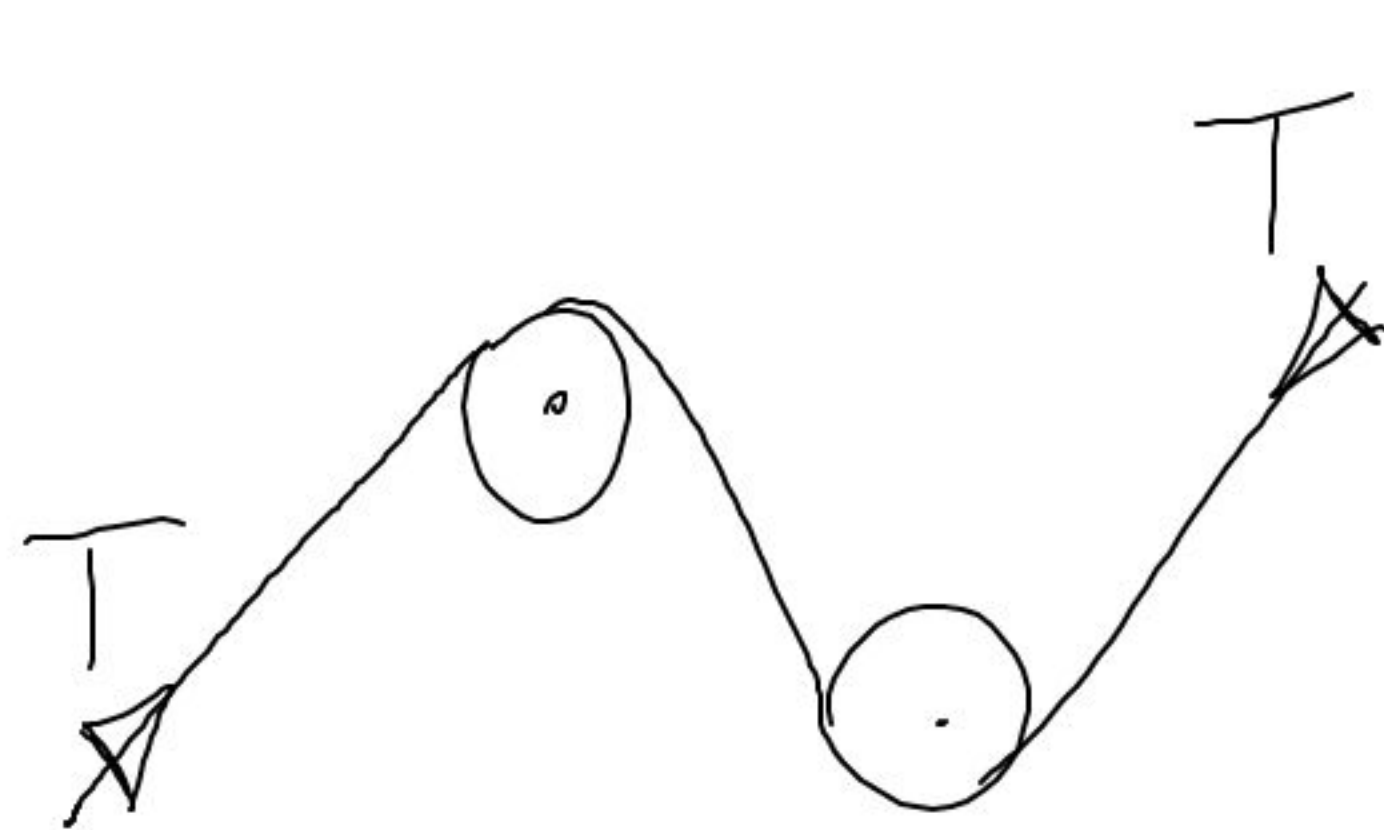
$$g = 9.8 \text{ m/s}^2$$

$$\text{Weight} = mg$$

Normal



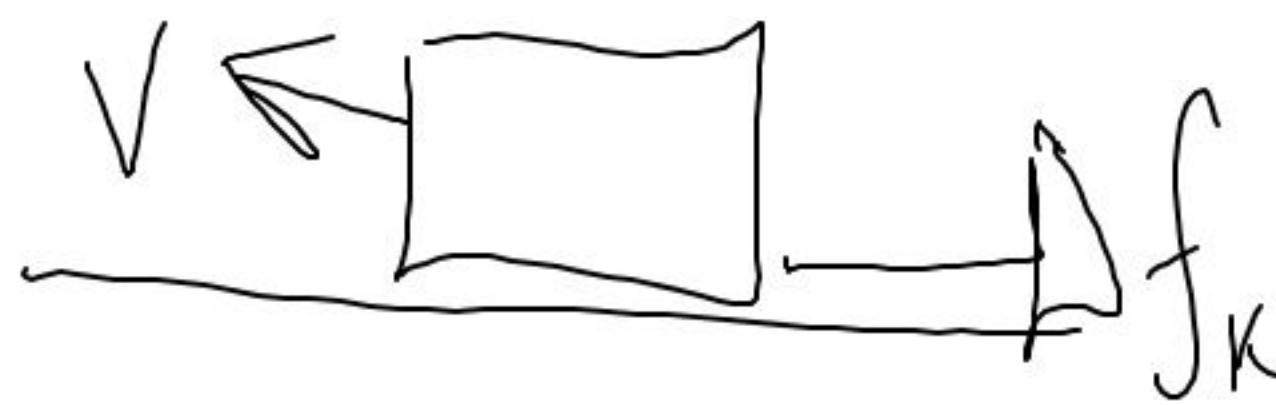
Tension

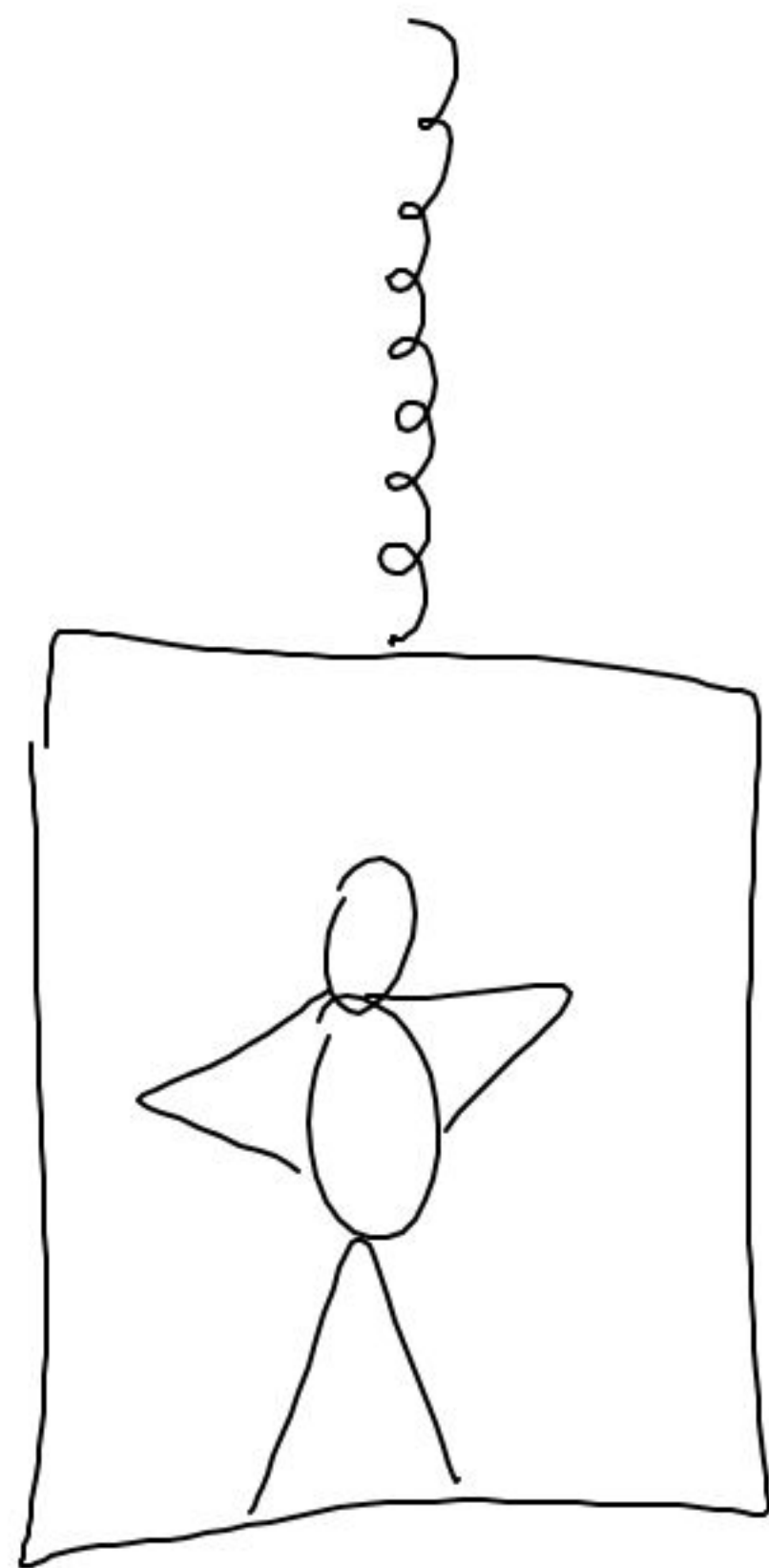


(same T if mass of rope neglected)

Resistive

Friction





Person

+y ↑



$$\sum \underline{F} = m \underline{a}$$

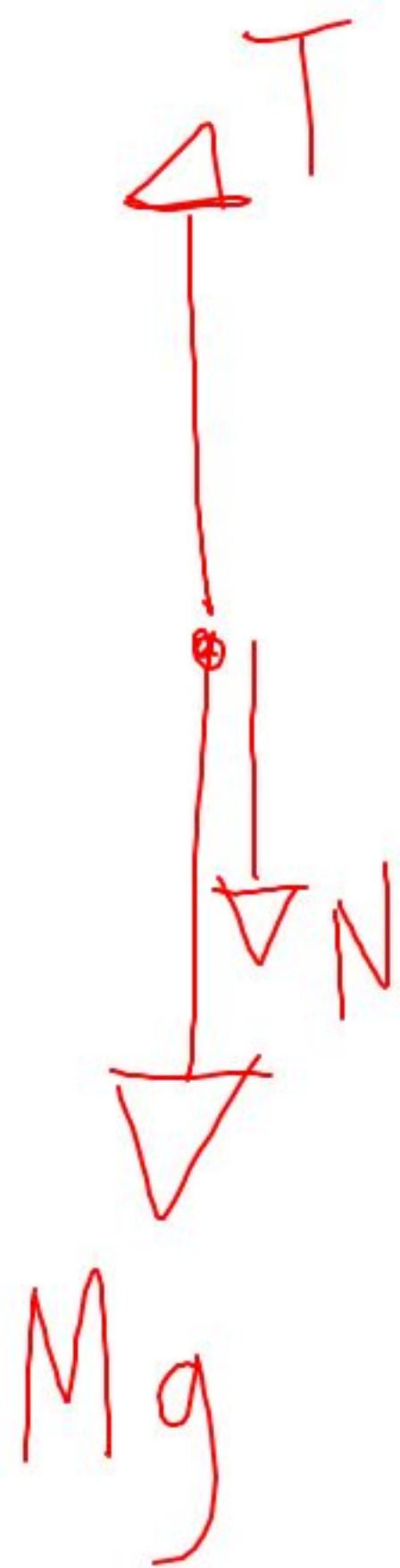
y components

$$+N - mg = ma_y$$

↑ ↑
+ +

$$\Rightarrow N > mg$$

Elevator



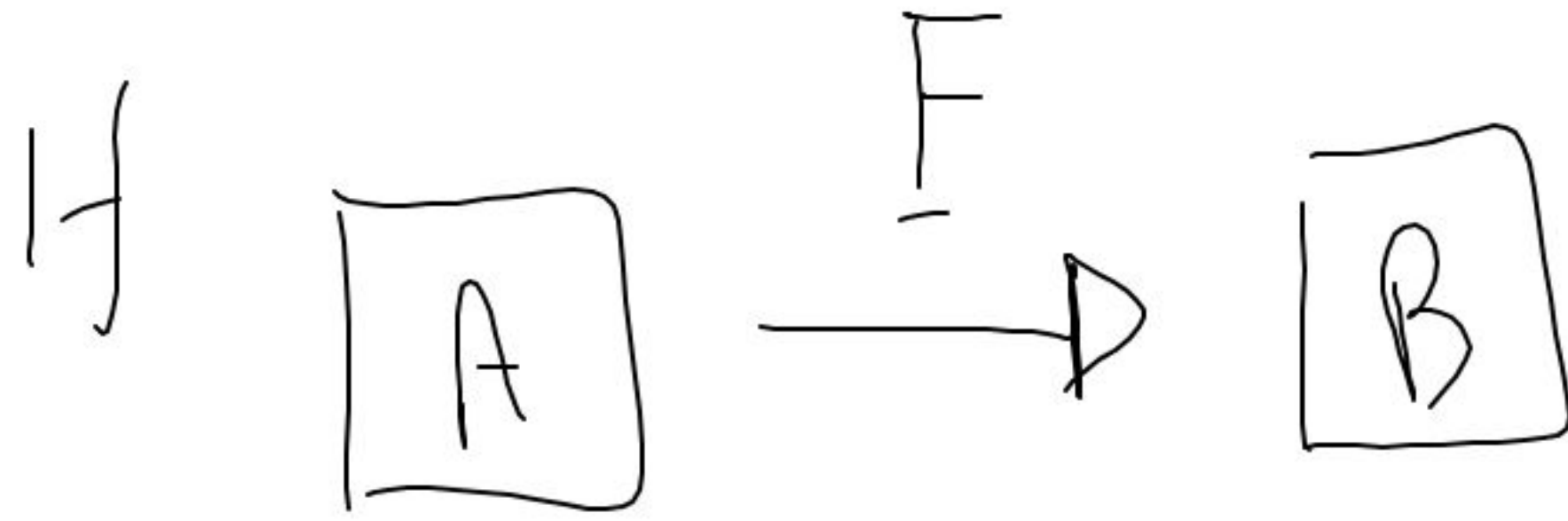
Resultant
Net
Total

$$\sum \underline{F} = M \underline{a}$$

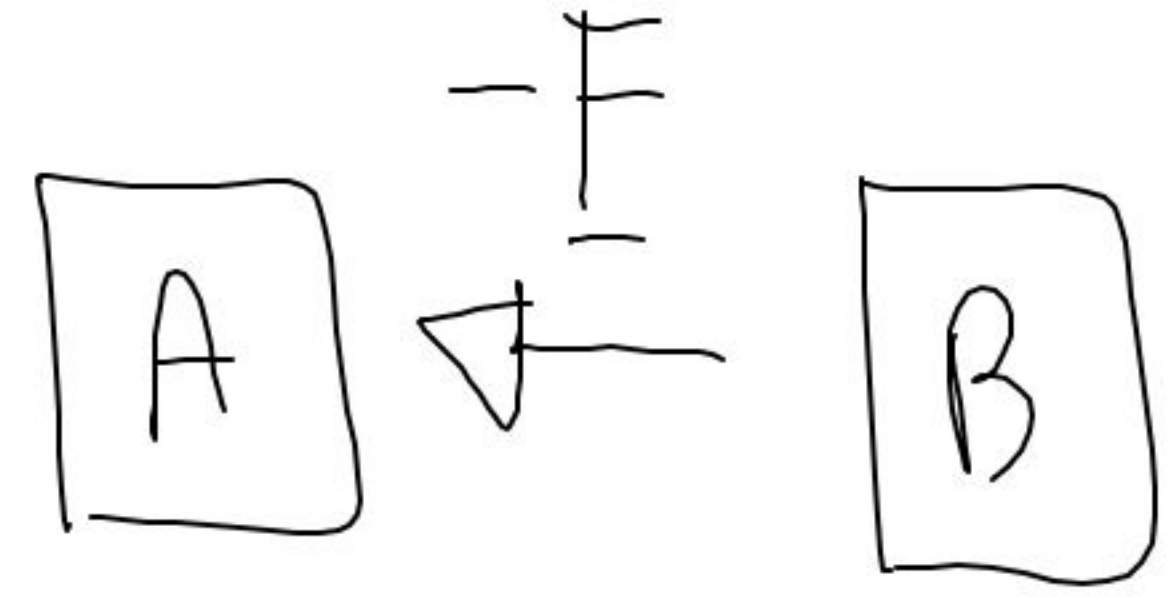
y components

$$+T - Mg - N = Ma_y$$

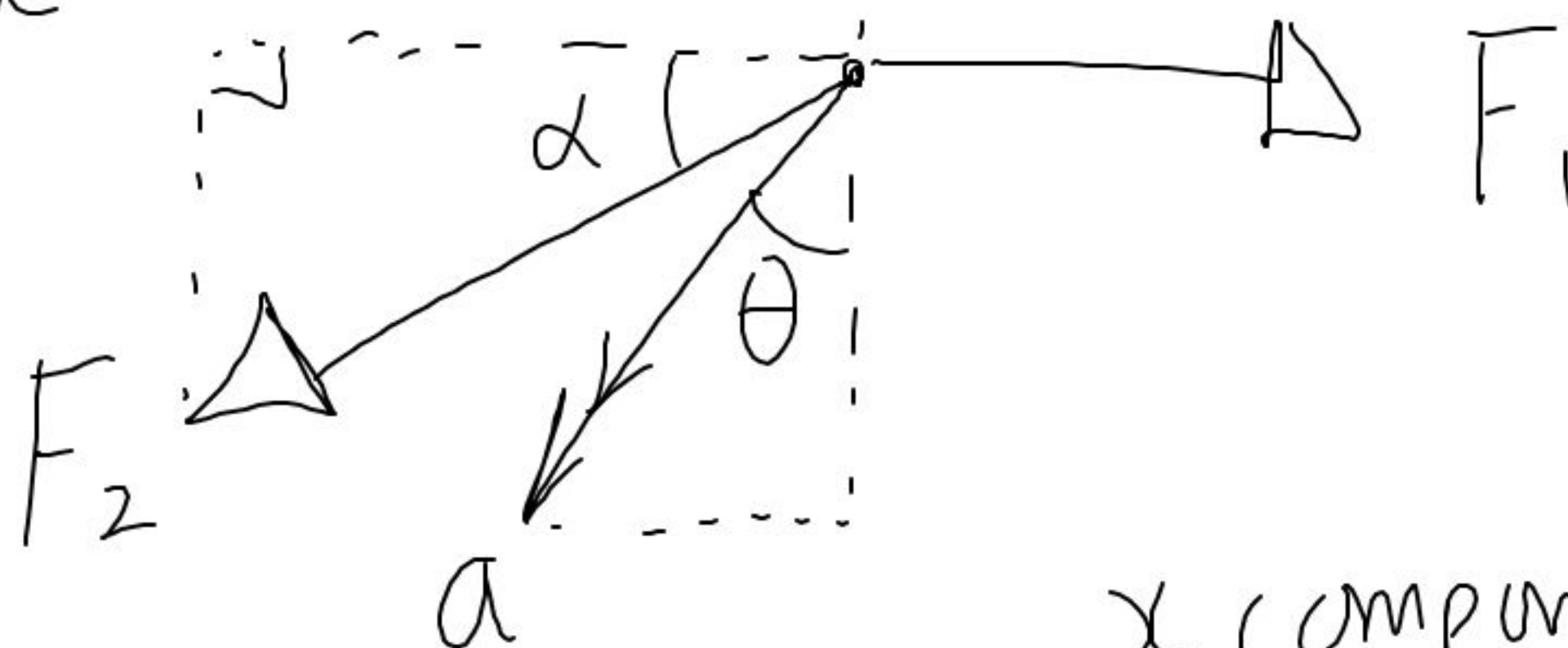
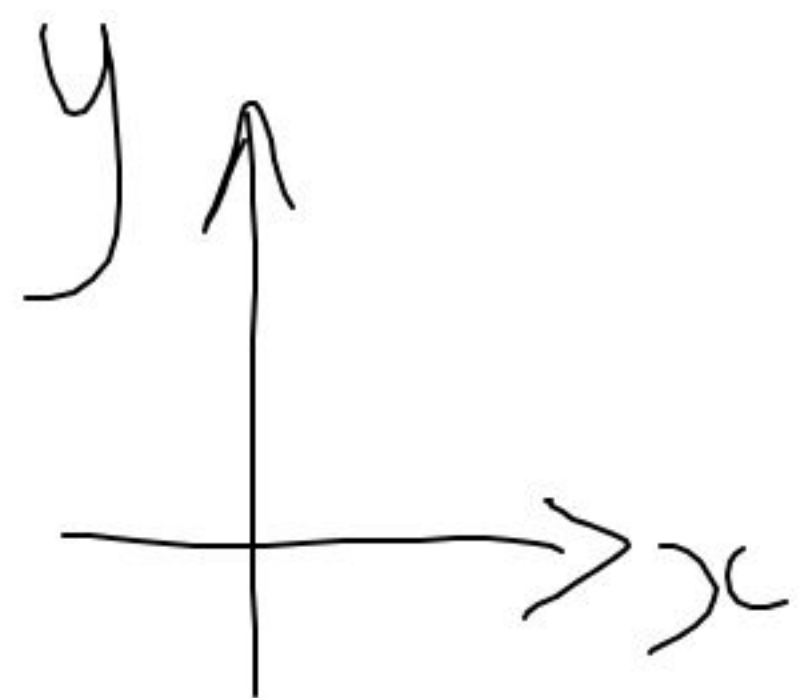
3rd law



Then



Problem 5.007



$$\sum \underline{F} = m \underline{a}$$

x components

$$+F_1 - F_2 \cos \alpha = m a_x$$

$$\Rightarrow m a \sin \theta$$

y components

.....