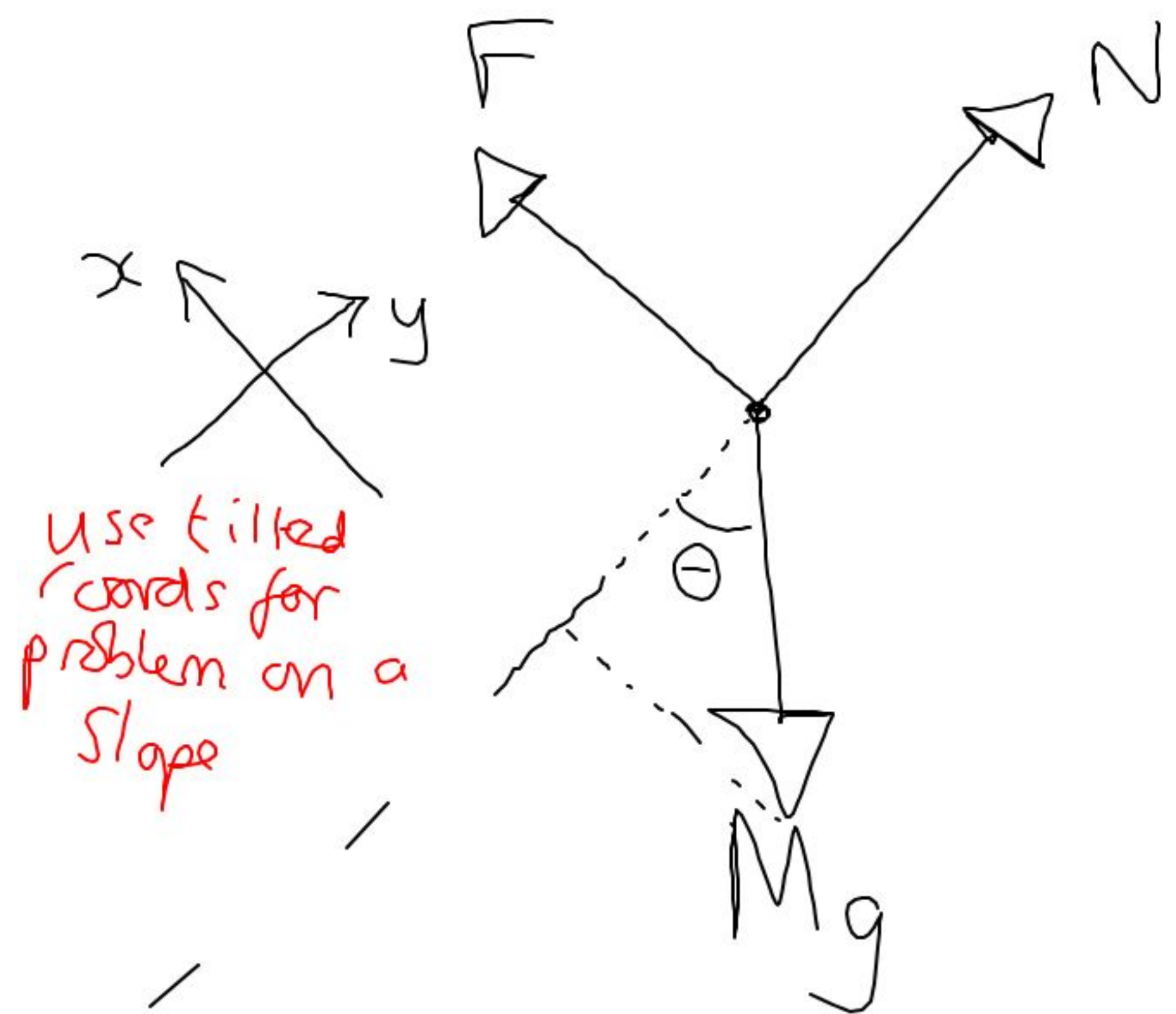


- Force must be continually acting to produce acceleration

- Include only direct forces  
in  $\sum \underline{F} = m \underline{a}$



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

x components

$$+ F - Mg \sin \theta = Ma_x$$

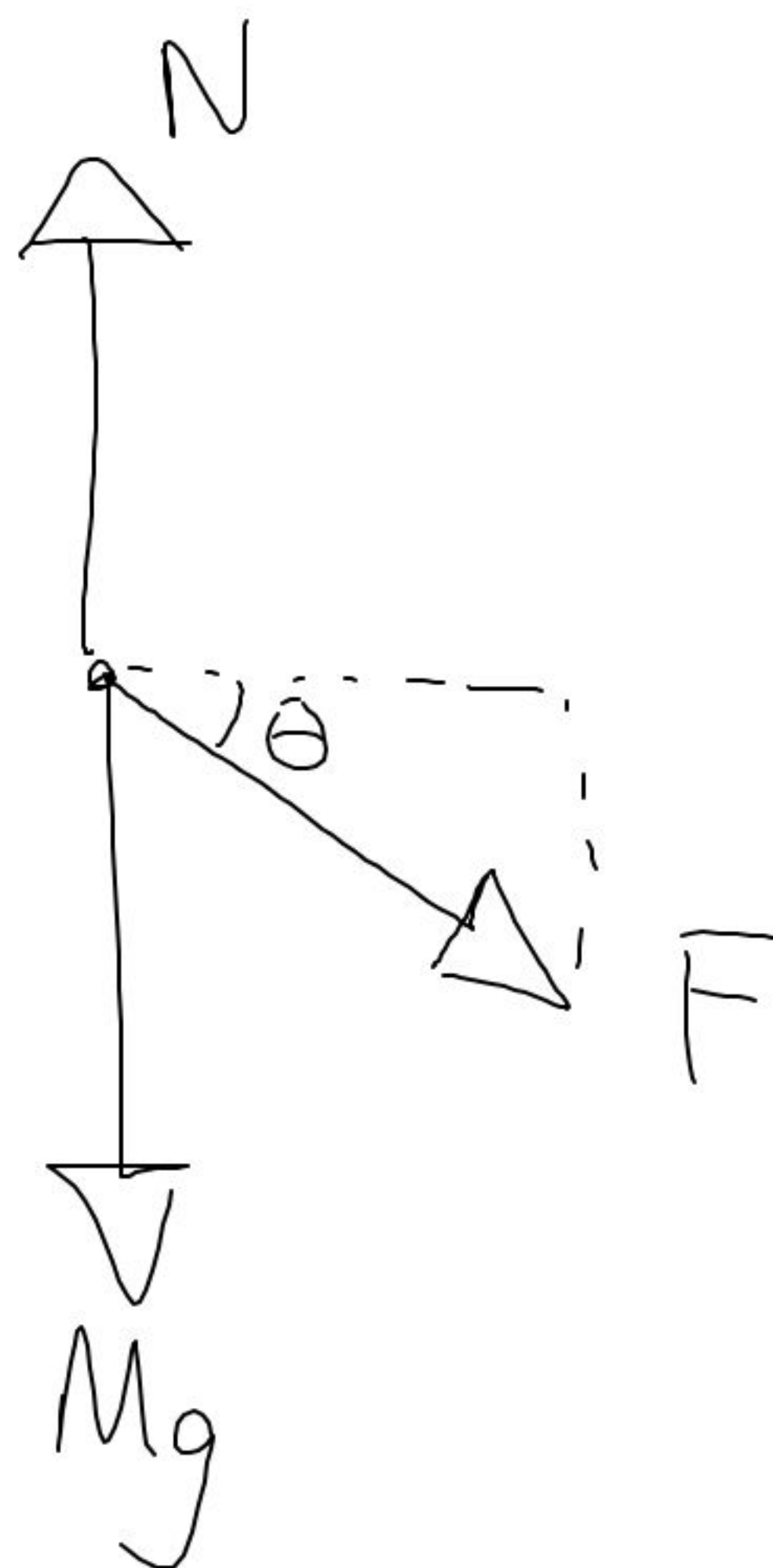
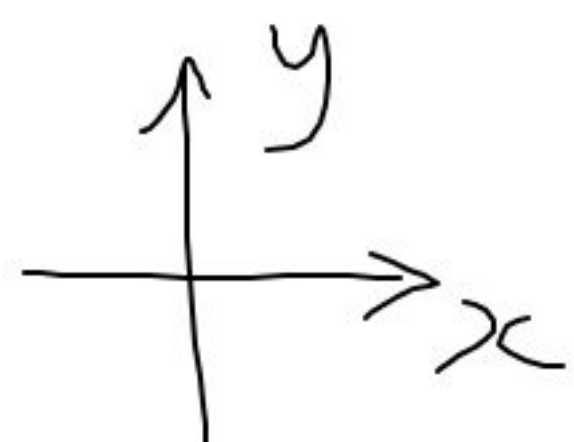
y components

$$+ N - Mg \cos \theta = Ma_y$$

$$= 0$$

does not  
accelerate  
perp to slope

$$N = Mg \cos \theta$$

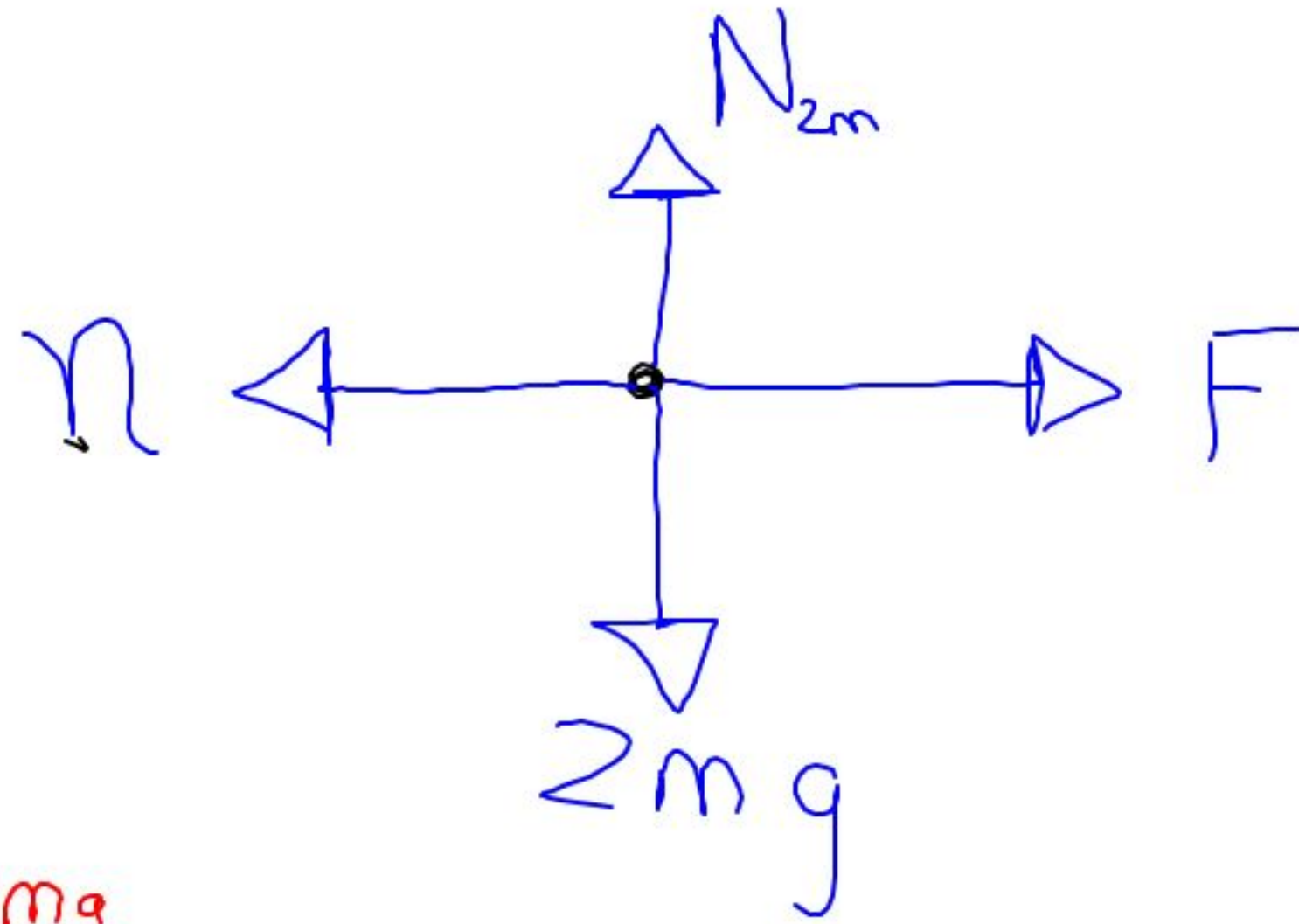


y components

$$+ N - Mg - F \sin \theta = ma_y$$
$$= 0$$

$$N = Mg + F \sin \theta$$

Larger



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

$x$  components

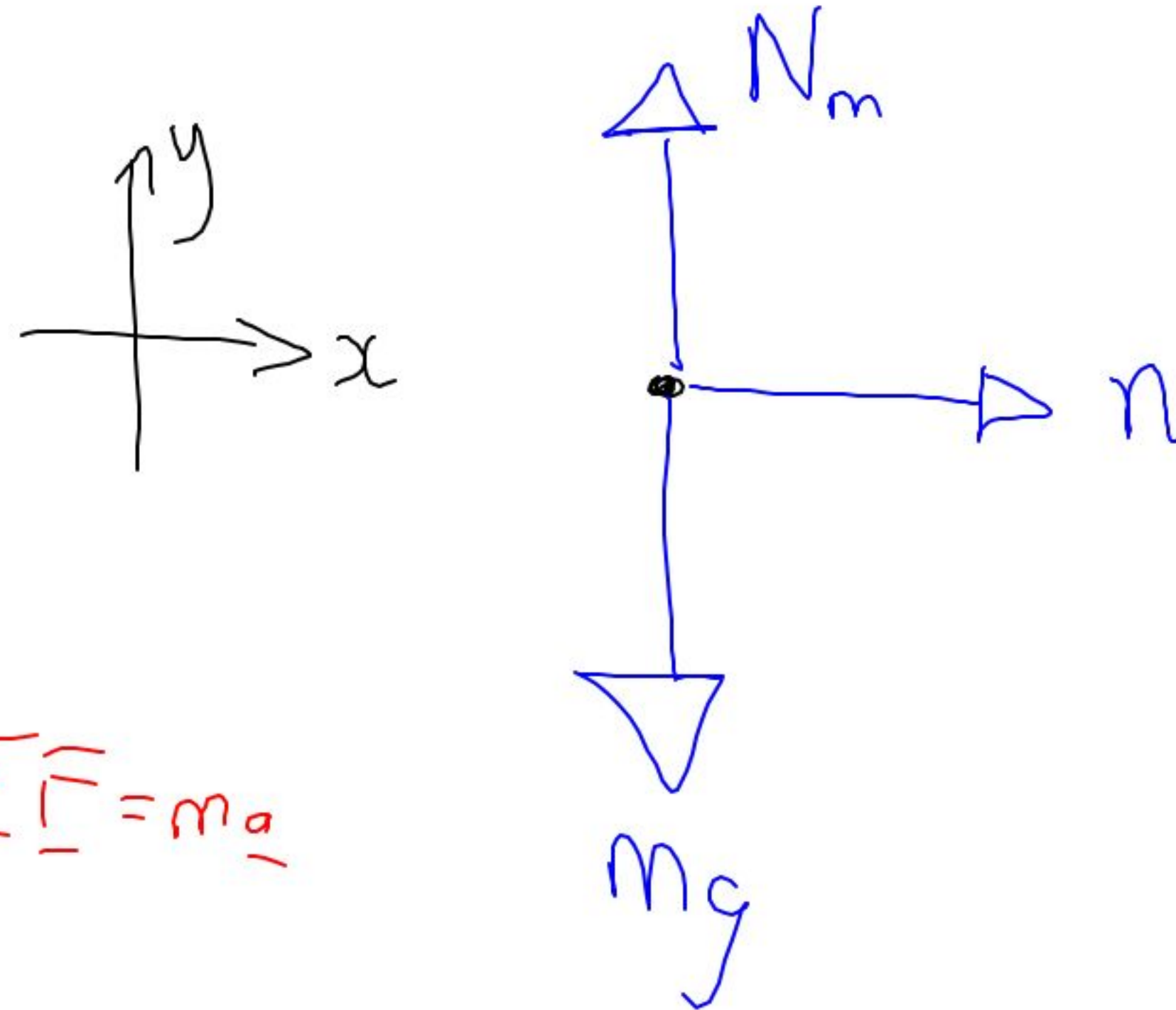
$$+F - n = 2m \cancel{a} \nearrow a_x$$

$$F - n = 2 \cancel{m} \cancel{a}$$

$$F = 3n \Rightarrow n = F/3$$

$a_{2mx} = a_{mx} = a_x$   
blocks move in  
Same way

Smaller



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

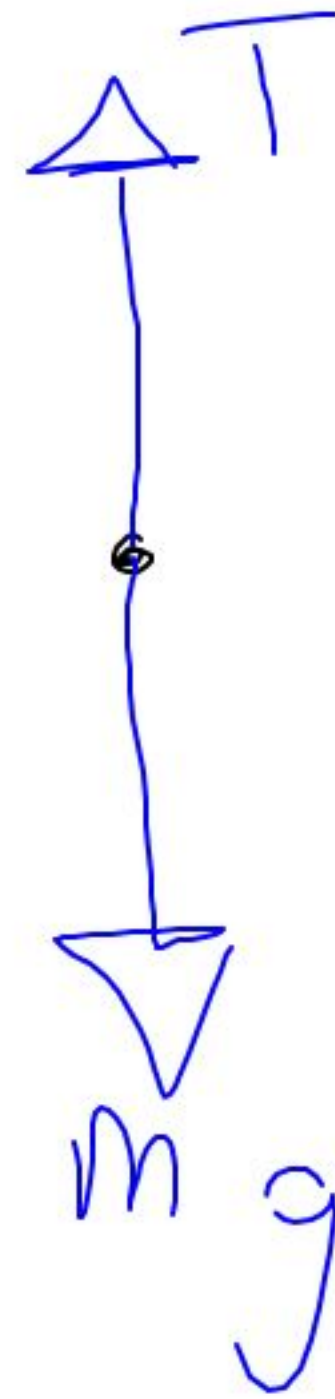
$x$  components

$$+n = m \cancel{a} \nearrow a_x$$

mass  $m_1$



Mass  $m_2$



$$m_1 = m_2 = m$$



$$+T - mg = ma_{1y}$$

$$T - mg = ma_{2y}$$

$$a_{1y} = a_{2y} = 0 \quad \text{since } a_{1y} = -a_{2y} \text{ due to string connection}$$