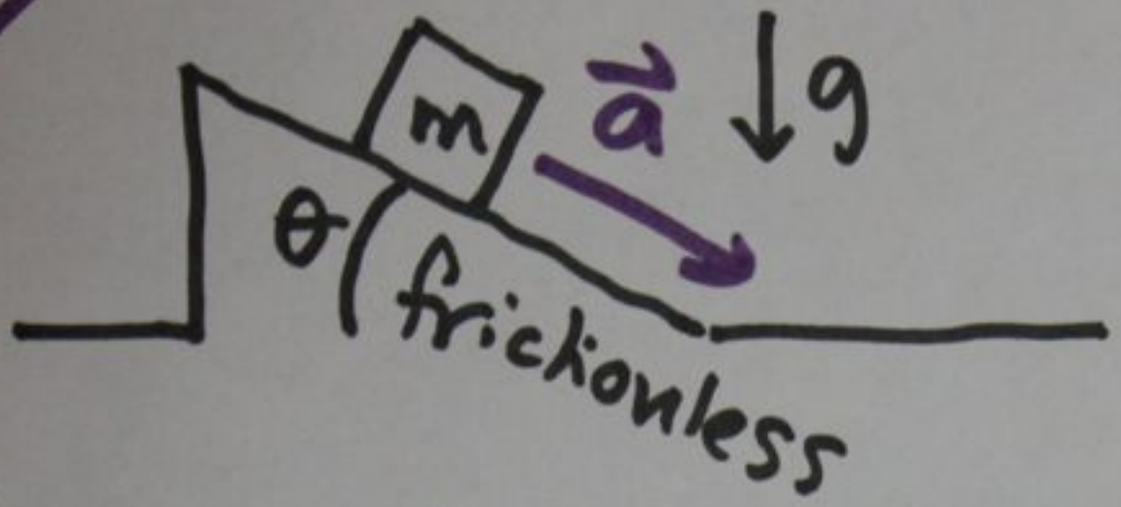
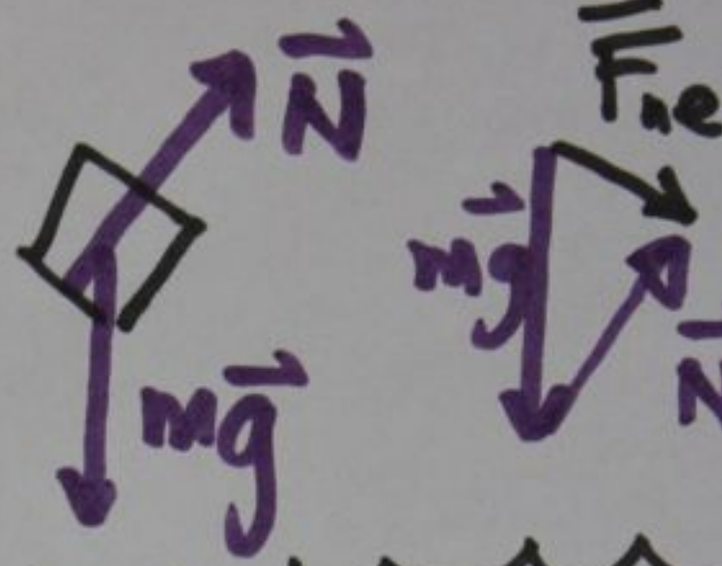
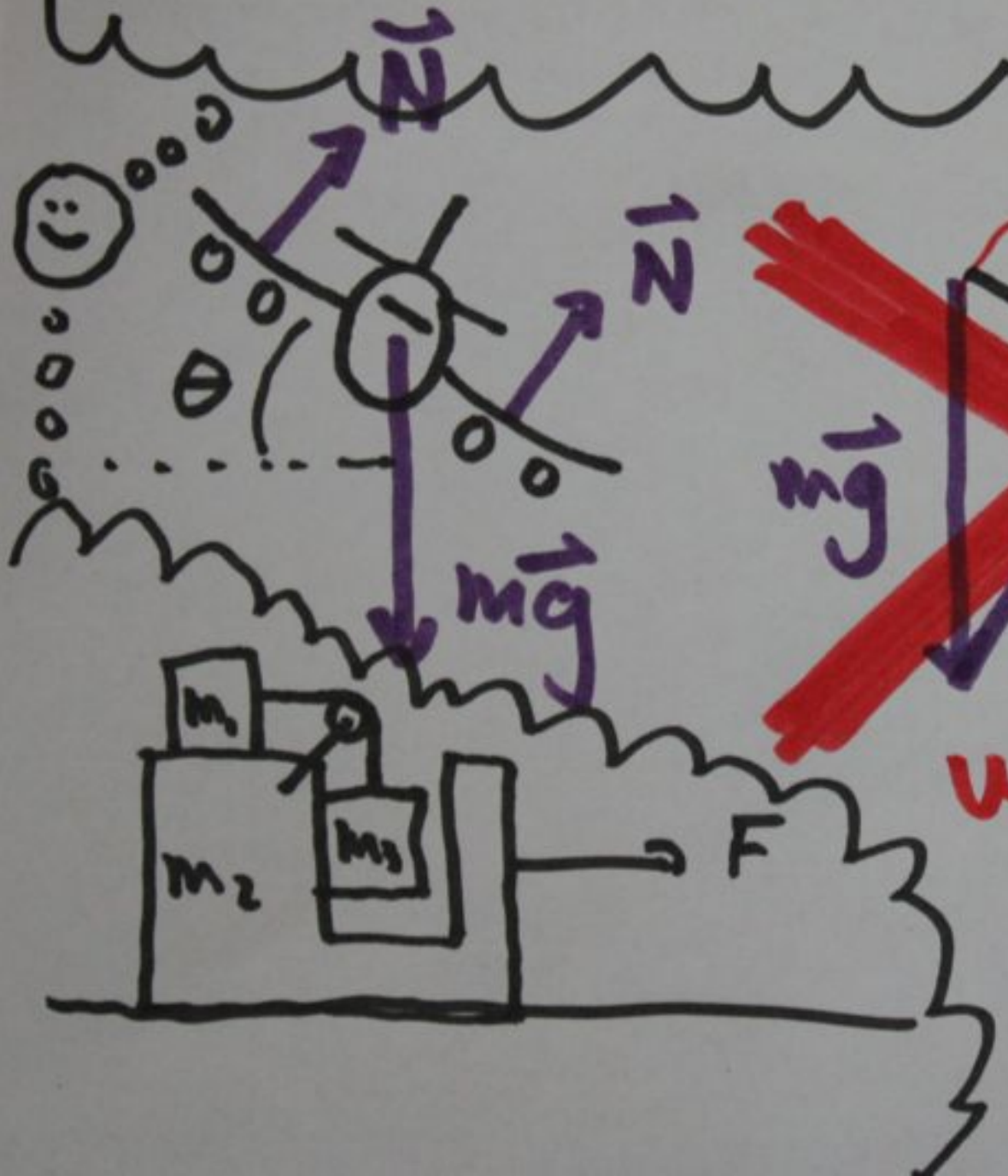
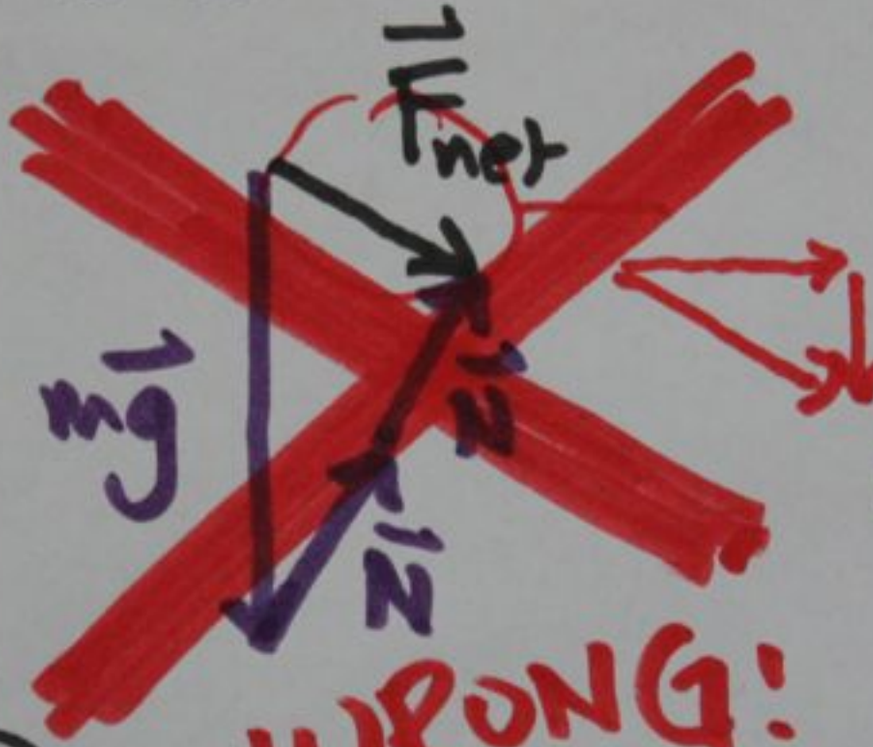
2011-09-29

1

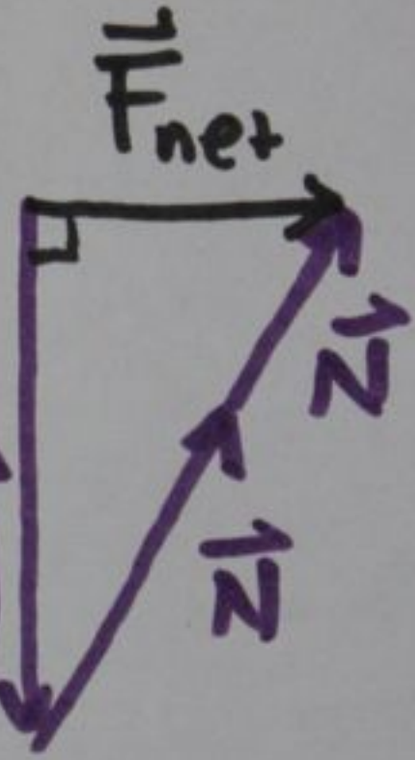


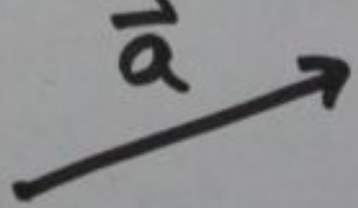


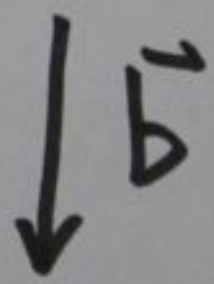


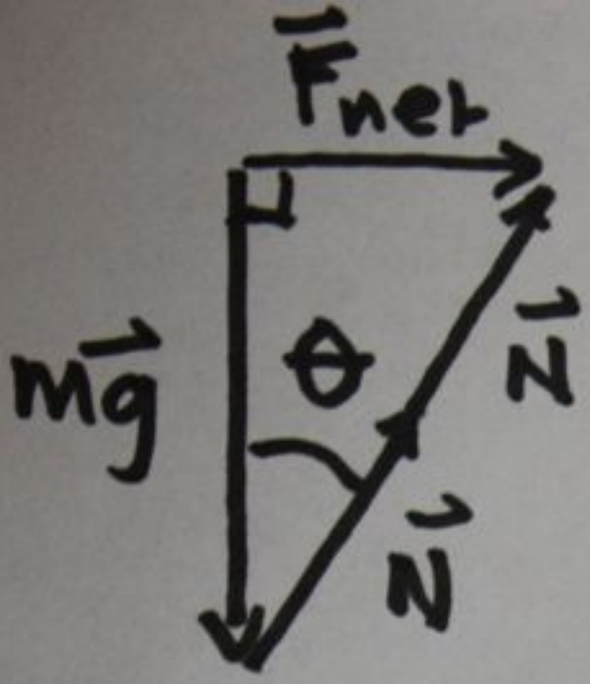


WRONG!









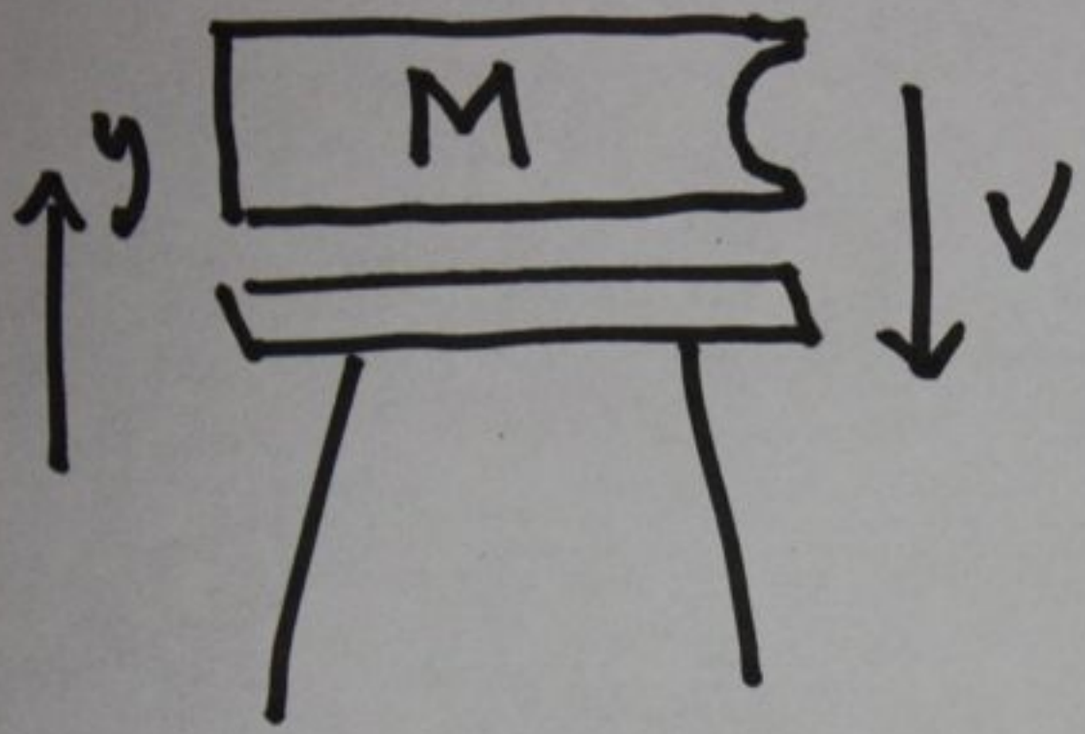
$$\frac{|\vec{F}_{net}|}{|m\vec{g}|} = \tan\theta$$

$$|\vec{F}_{net}| = |m\vec{g}| \tan\theta$$

$$\text{speed}^2 \rightarrow \frac{|\vec{v}|^2}{R} \equiv |\vec{a}| = |\vec{g}| \tan\theta \leftarrow \text{angle of bank}$$

R ← radius of circle

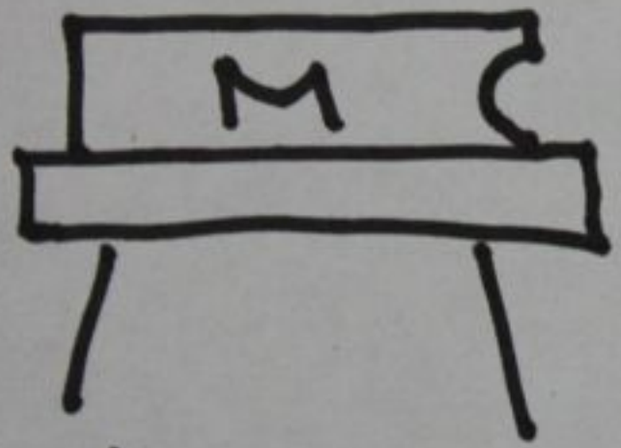
✓ — radius decreases if θ increases.



"before"

$$\Delta V_y = 0 - (-v)$$

$$\Delta V_y = V$$



$v = 0$ "after"

$$|\vec{F}| = |m\vec{a}| \approx m\left|\frac{\vec{\Delta v}}{\Delta t}\right|$$

textbook dropped on stool:

① falling phase: $\underbrace{\Delta y}_{\sim 1m} = -\frac{1}{2} \underbrace{g}_{\sim 10\,ms^{-2}} t_f^2 \sim (0.5s)^2$

② stopping phase $\underbrace{\Delta y}_{\sim 1mm} = v_0 t_s + \frac{1}{2} a t_s^2$?

a ? $\sim \frac{v_0}{t_s}$