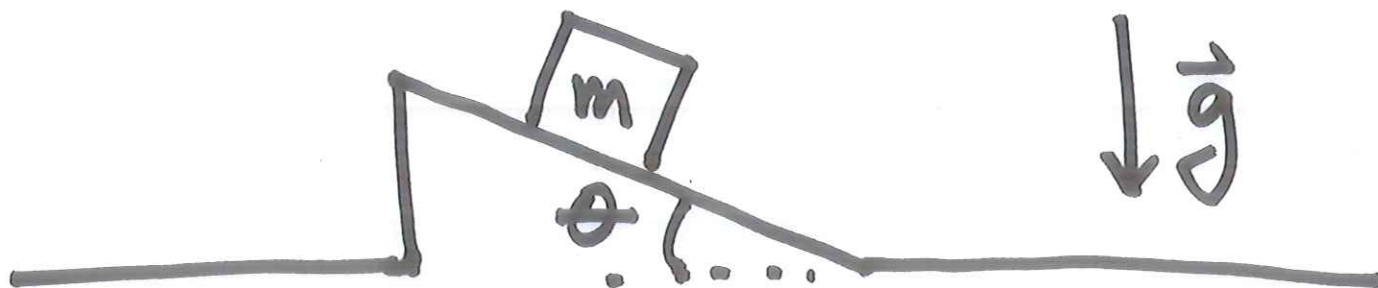


Physics 1

2017-09-19.

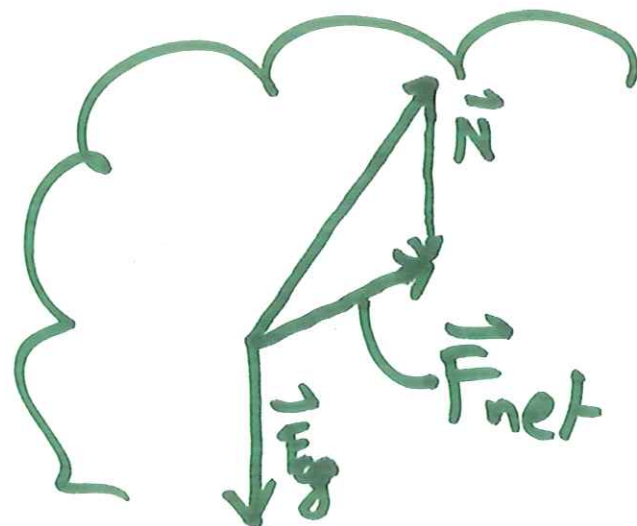
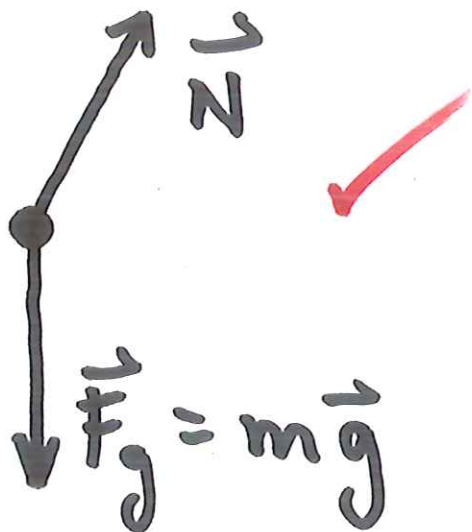
- Agenda:
- Questions.
 - Reading.
 - Scope of Term Exam 1.
 - Block on a plane.
- Newton's Laws
free-body diagram
~~dynamics~~

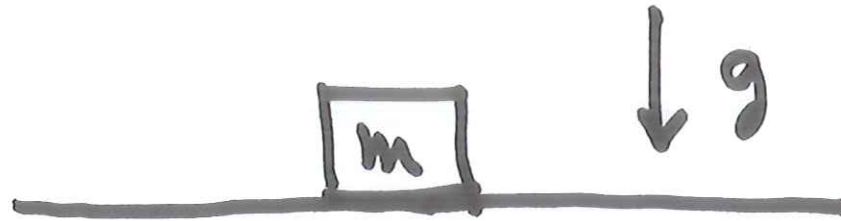


- no air. - no friction. - release from rest
 what is the acceleration \vec{a} of the block?

guess: $|\vec{a}| = |\vec{g}| \sin \theta$

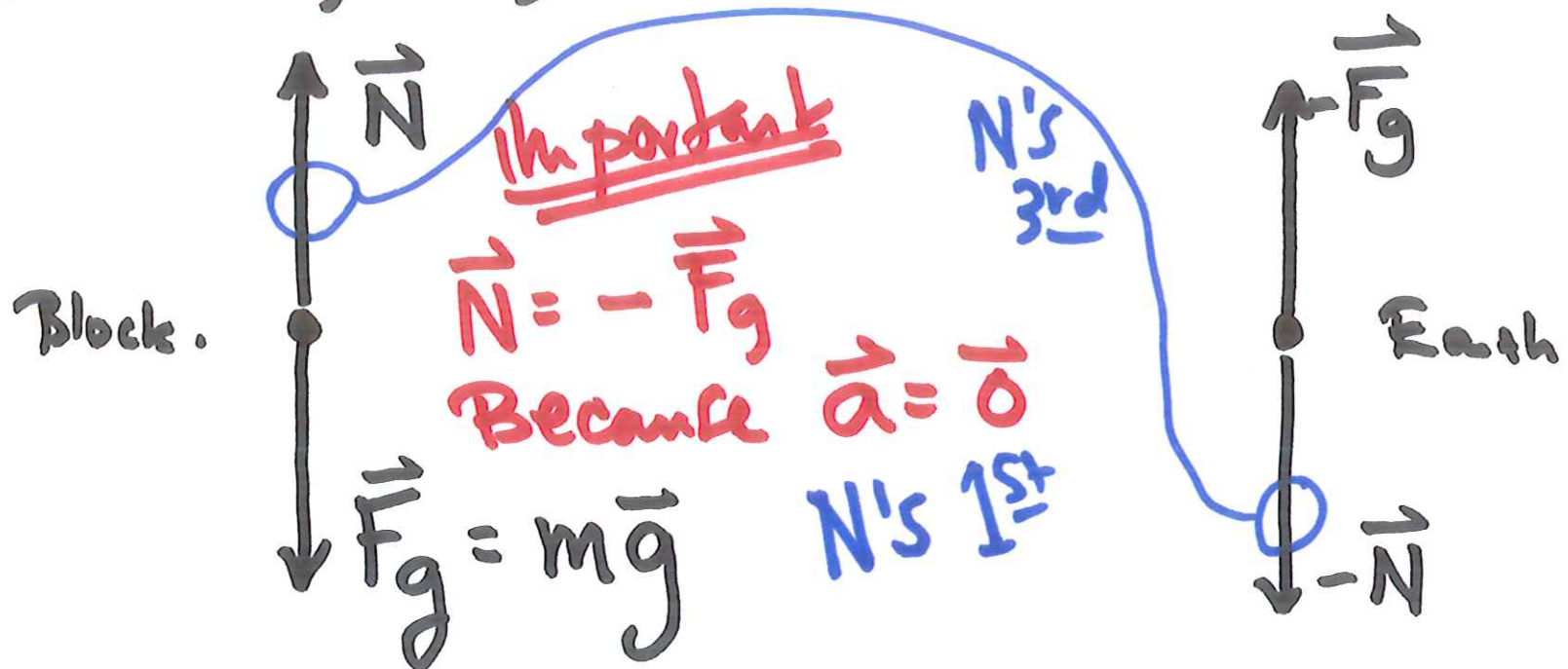
"frictionless" surfaces produce only normal F_s .





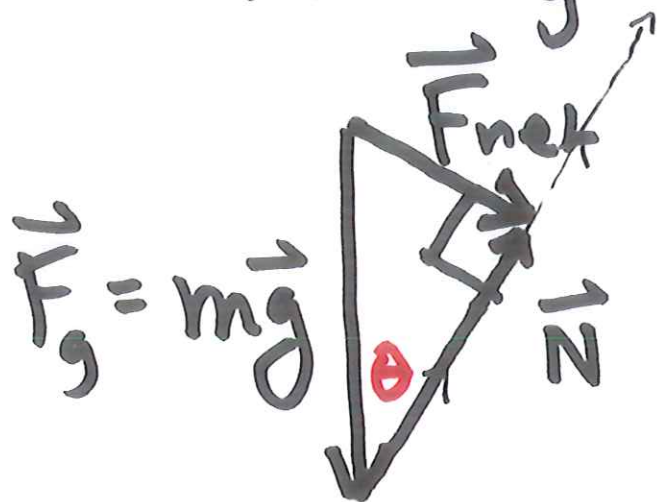
- no air
- no friction
- r.f.r.
- floor's not accelerating.

free-body diagram.



What is the "net" force? total Force

$$\vec{F}_{\text{net}} = \vec{F}_g + \vec{N} \quad \text{vector equation!}$$



Important: to draw this diagram — we needed to use: $\vec{F}_{\text{net}} \parallel \vec{a} \parallel \text{surface}$

Interplay between forces + kinematics