

2013-09-17-

Exam 1 - Ps 1, 2, 3

labs 1, 2

lectures - all 6.

- multiple choice
- open notes
- no devices - incl. calculators.
- BRING ~~your~~ YOUR ID.
- no 2. / HB pencil.

Forces:

- gravity
- contact

(things pushing
+ pulling other things)

↳ normal forces

frictional forces

(transverse)

Newton's laws
Forces

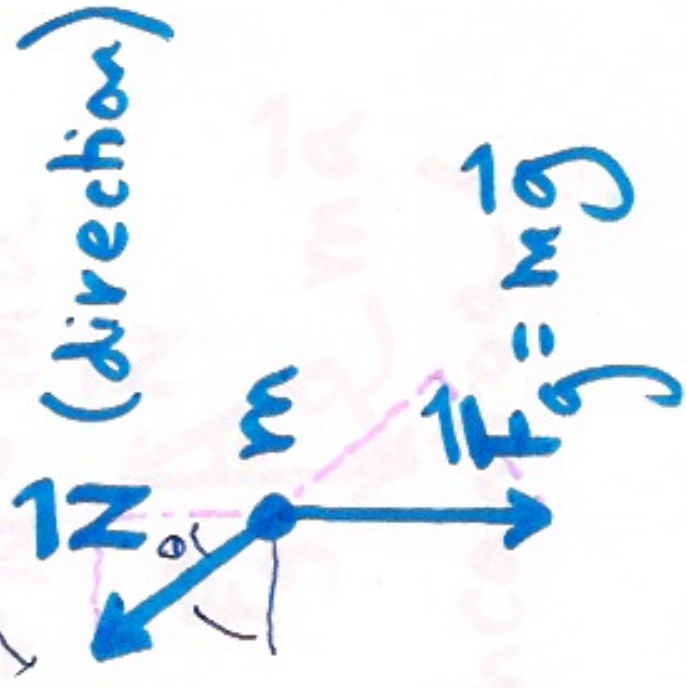
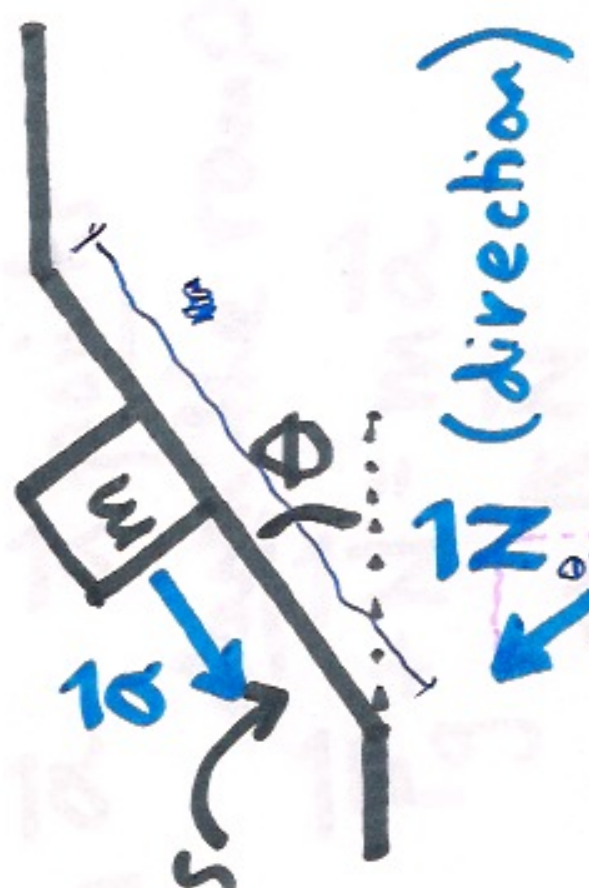
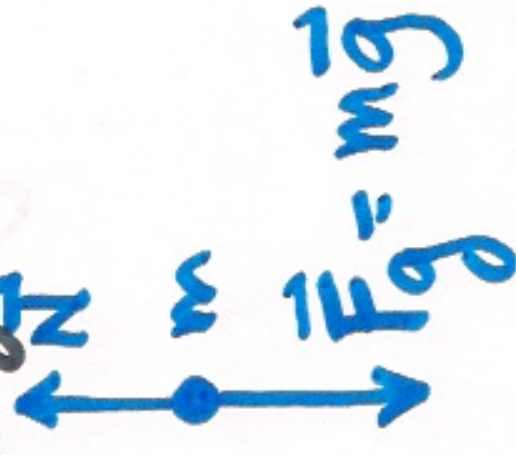
"Dynamics"

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



acceleration.

1. Free-body diagram



2. What do I know already about \vec{a} ?

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

$$\vec{a} = \vec{0}$$

$$|\vec{a}| < |\vec{a}_k|$$

3. Apply $\vec{F}_{\text{total}} = m\vec{a}$

$$\vec{F}_g + \vec{N} = m\vec{0}$$

$$\vec{N} = -m\vec{g}$$

\vec{a} points
down the ramp.

$$\vec{F}_g + \vec{N} = m\vec{a}$$



Sohcahtoa!