

Physics 112

Friday, October 26/18

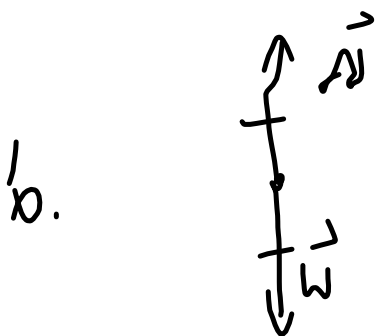
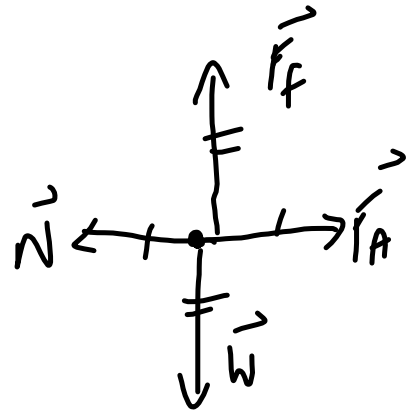
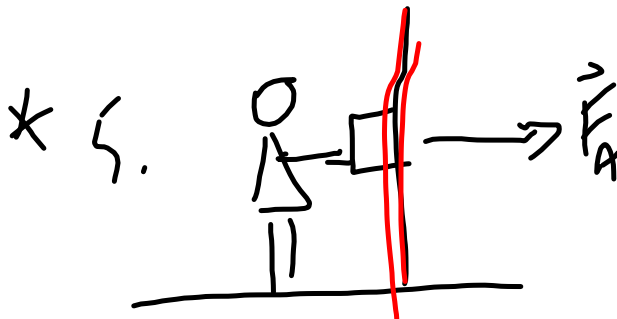
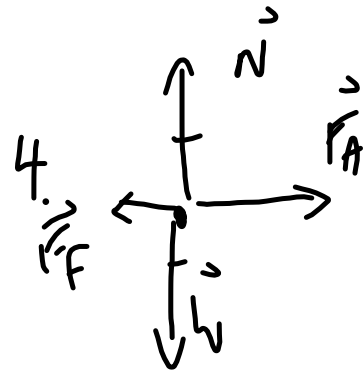
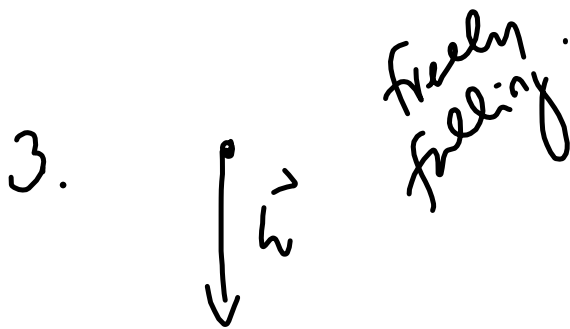
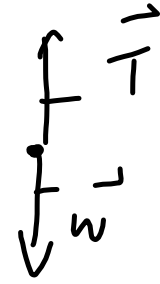
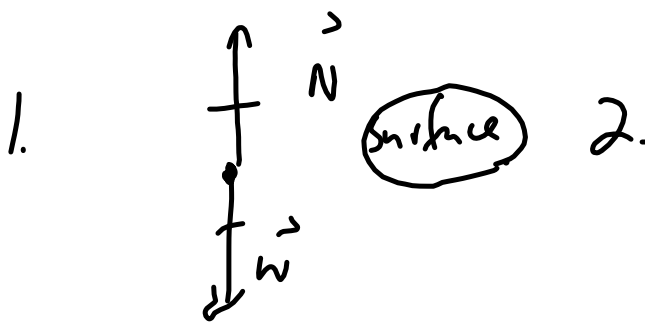
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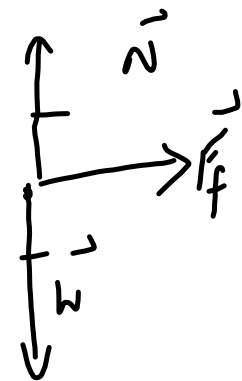
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1. Return -> SA - U1 S3 - Mathematical Analysis
2. Check:
Worksheet #2 - Free Body Diagrams
3. FA - Types of Forces and Weight Problem
4. First Law Problems - Continue
5. [Worksheet - Practice Problems \(PP\) - C4, Page 144: 5-8](#)
PFU Page 151, #26-28, 30-32, 34



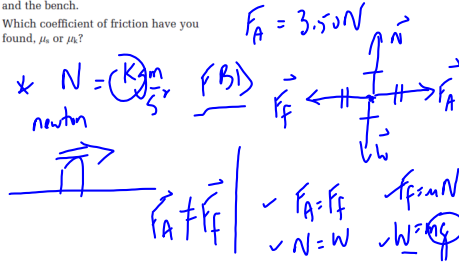
7.



PRACTICE PROBLEMS

5. A friend pushes a 600 g (6.00×10^{-2} kg) textbook along a lab bench at constant velocity with 3.50 N of force.
- Determine the normal force supporting the textbook.
 - Calculate the force of friction and coefficient of friction between the book and the bench.
 - Which coefficient of friction have you found, μ_s or μ_k ?

$m = 600 \text{ g} = 0.600 \text{ kg}$
 $\div 1000$
 constant vel \Rightarrow 1st Law



a) $\vec{N} = ?$ $N = W$
 $g = 9.80 \text{ m/s}^2$ $N = mg$
 ~~$\vec{g} = -9.80 \text{ m/s}^2$~~ $N = (0.600)(9.80)$
 $N = 5.88 \text{ N}$
 $\vec{N} = 5.88 \text{ N, up}$

The normal force is 5.88 N, up

b) $\vec{F}_f = ?$ force of friction
 $\mu = ?$ coefficient of friction

$F_A = F_f$ $F_f = \mu N$
 $N = W$ $W = mg$

$F_f = F_A$
 $F_f = 3.50 \text{ N}$
 $F_f = 3.50 \text{ N, left}$

W \Rightarrow The force of friction was 3.50 N, left.

$\mu = ?$ $F_f = \mu N$
 $\frac{F_f}{N} = \frac{\mu N}{N}$
 $\mu = \frac{F_f}{N}$
 $\mu = \frac{3.50 \text{ N}}{5.88 \text{ N}}$
 $\mu = 0.595 \leftarrow \text{no unit.}$

The coefficient of friction was 0.595.

- c) μ_s or μ_k
 static kinetic.

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1. Submit - FAs - Relative Velocity (3)

FA - 1D Explosion

FA - 1D Collision and Type of Collision

2. Worksheets - 2D Collisions and Explosions (2)

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1. Predicting Products
2. Worksheet - Predicting Products
3. FA - Identifying Types of Reactions and Balancing
FA – Translating Reactions
FA - Predicting Products
4. SA - Chem #3 - Topics