

Wednesday, February 18/15  
Science 122

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1. Return: Quiz -> Start to End of Electric Motors
  2. Check -> Worksheet - Magnetic Field Produced by a Wire
  3. The Force On A Wire Due To A Magnetic Field
  4. [Worksheet - Force on a Wire In a Magnetic Field - HW](#)
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5. Force on a Single Charged Particle
  6. Worksheet - Magnetic Force on a Single Charged Particle
  7. Trajectory of A Single Charged Particle in a Uniform Magnetic Field
  8. Worksheet - Magnetic Fields and Circular Paths

Wednesday, February 18/15  
Physics 122/121

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1. Return -> Formative Assessment - Type II (Complex)
  2. Check -> Worksheet - Force Problems I, II and III
  3. Quiz - Force Problems: Types I, II and III  
- Thursday
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4. Unit 1 - Section 2
5. Center of Mass
6. Torque
7. Net Torque

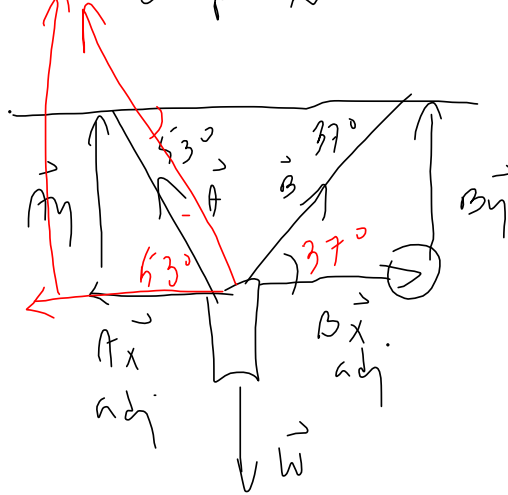


## Force Prob - Type I, II, III

1. 29 N,  $25^\circ$  with horizontal
2. 35 N in the two end ropes  
33 N in the middle rope
3. a) 0.47  
b) 6.4 m
4. 5.0 m, up the incline
5. 24.4 N,  $78.3^\circ$  with the horizontal
6.  $2.1 \times 10^3$  N, down
7. 9.0 m/s
8. a) 62.2 N, left  
b) 199 N, up
9.  $7.9^\circ$
10.  $1.39 \text{ m/s}^2$ , right
11.  $3.0 \times 10^2$  N,  $50^\circ$  with the horizontal  
 $2.2 \times 10^2$  N,  $30^\circ$  with the horizontal

Type II - Complex.

# 4.



$$+B_x - A_x = 0$$

$$B \cos 37^\circ - A \cos 53^\circ = 0$$

$$B = \frac{A \cos 53^\circ}{\cos 37^\circ}$$

$$+A_y + B_y - W = 0$$

$$A \sin 53^\circ + B \sin 37^\circ - mg = 0$$

$$A \sin 53^\circ + \left( \frac{A \cos 53^\circ}{\cos 37^\circ} \right) \sin 37^\circ - mg = 0$$

$$A \left[ \sin 53^\circ + \cos 53^\circ \tan 37^\circ \right] = mg$$

$$A \left( \sin 53^\circ + \cos 53^\circ \tan 37^\circ \right) = mg$$

$$A = \frac{mg}{\sin 53^\circ + \cos 53^\circ \tan 37^\circ}$$

$$A = \underline{\hspace{2cm}} \quad (2.51)$$

Type I, II, III }  $\mu = 0.47$  ✓

speed up:  $\vec{V}$ ,  $\vec{a}$  (+)

slowed down:  $\vec{V}$ ,  $\vec{a}$  (-)

$\vec{V} = -6.0 \text{ m/s}$

$\mu = ?$  ↑ Constant

$\vec{a} = 0 \text{ m/s}^2$

$F_f = \mu N$

$N = W_y$

$\vec{F}_{\text{net } x} = m \vec{a}_x$

$\Rightarrow + F_f - W_x = 0$

$\Rightarrow \mu N - W \sin \theta = 0$

$\mu W_y - W \sin \theta = 0$

$\mu W \cos \theta - W \sin \theta = 0$

$\mu \cos \theta - \sin \theta = 0$

$\mu \cos \theta = \sin \theta$

$\mu = \frac{\sin \theta}{\cos \theta}$

$\mu = \tan \theta$

$\mu = 0.47$

b)

$\vec{a} = ?$

$\vec{V}_f = -6.0 \text{ m/s}$

$\vec{a} = -6.4 \text{ m/s}^2$

0 m/s

Wednesday, February 18/15

Science 10

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1. Assignment - Indicator Species - 5 Days Late Today
  2. Assignment - Oh, What a Tangled Web...  
- 3 Days Late Today
  3. Return Marks: Quiz - Ecology to Food Webs
  4. Bioaccumulation and Biomagnification - DDT  
- Borneo
  5. Biological Diversity and Cultural Identity
  6. Assignment – Biodiversity and Culture
  7. Chapter 2 - Change and Stability in Ecosystems
  8. Sustainability
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9. Types of Substances
  10. Cycling of Organic Matter
  11. Biogeochemical Cycles
  12. Carbon Cycle
  13. Read pages 62-64  
Complete: Page 65 - Understanding Concepts, #1, 2, 3, 4, 5  
- Making Connections, #6