

April 29 - Professional Learning Day (Friday)

May 5 - NBTA Meetings (Thursday)

May 6 - NBTA Council Day (Friday)

May 23 - Victoria Day (Monday)

May 27 - Professional Learning Day (Friday)

Physics 112

Wednesday, April 20/16

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*Library Books

Explain That Stuff - April 22/16

Midterm - April 21/16 -> Tomorrow

1. Questions re Midterm?
2. Check -> Worksheet: Worksheet: C5 – Newton's Second Law
3. Newton's Second Law - Problems - Type III
4. Worksheet: Text: Page 163, PP #1-3
Text - Page 168 #4-7

} HW -> Friday

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5. Force Problem -> Two Bodies: Atwood's Machine
 6. Textbook: Page 485, #19-21 (C10)

Midterm Topics.

- > find \vec{R} analytically
- > velocity-time graph
- WS -> kinematic problems (2)
- WS -> freely falling body (1)
- > $\vec{v}_i = \vec{0}$
- $\vec{v}_i = \ominus$ $\left[\begin{array}{l} \downarrow \text{dropped} \\ \downarrow \text{thrown} \end{array} \right]$
- $\vec{v}_i = \oplus$ $\left[\begin{array}{l} \downarrow \text{thrown} \\ \downarrow \text{thrown} \end{array} \right]$
- WS - Weight $\vec{W} = m\vec{g}$
- WS - Newton's First Law prob (1)
- ↳ $\vec{F} = \vec{0}$ (inertial)
- ↙ object at rest
- ↘ object constant vel.

- * $\frac{km}{h} \xrightarrow{=3.6} \frac{m}{s}$
- * $g \rightarrow kg$
- * $h \rightarrow \text{min} \rightarrow s$

vel-time: $A = b\vec{h}$
 $\vec{a} = \text{slope}$ $(A = 5 \text{ Dim})$
 $\vec{a} = -10 \text{ m/s}^2$
 $[10 \text{ m/s}^2, W]$

Kinematic Eq.

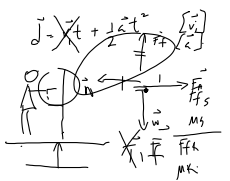
- ① rearranging \vec{v}_i
 - ② $\left[\begin{array}{l} \leftarrow \vec{v}_i \\ \downarrow \vec{v}_i \end{array} \right]$
- \vec{v}_i^- \vec{v}_i^+ speeds
 \vec{v}_i^- \vec{v}_i^+ slow down

freely falling: $\vec{a} = -9.8 \text{ m/s}^2$
 $\vec{v}_i = \vec{0}$
 $\vec{v}_i = \ominus$
 $\vec{v}_i = \oplus$

$\vec{W} = m\vec{g}$ (kg)
 $1000g = 1kg$

Newton's 1st Law

- ① rest \rightarrow static M_s
 - ② constant vel. \rightarrow kinetic M_k
 - ③ $\vec{F} = \vec{0}$ $\left[\begin{array}{l} \leftarrow \vec{F}_f \\ \uparrow \vec{F}_n \\ \downarrow \vec{W} \\ \rightarrow \vec{F}_a \end{array} \right]$
- $\vec{v}_i = +13 \text{ m/s}$ \vec{W} The initial vel. was 13 m/s. $\left[\begin{array}{l} \text{right} \\ \text{left} \\ \text{up} \\ \text{down} \end{array} \right]$
- $\vec{v}_f = \vec{v}_i + \vec{a}t$ $\left[\begin{array}{l} [v] \\ [t] \end{array} \right]$



Science 122

Wednesday, April 20/16

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Midterm - April 28/16 (Thursday)

1. Check -> Worksheet: Pressure and Depth in a Static Fluid #1-5
2. Midterm Topics - To Be Continued

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3. Pressure Gauges
 4. Pascal's Principle
 5. Archimedes' Principle
 6. Worksheet: Archimedes' Principle

Science 122 - Midterm Topics

1. Complex Circuit.

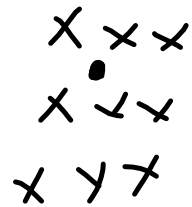
2. Magnetism

→ Find B (3 cases)

→ $F = ILB \sin \theta$

→ $F = qvB \sin \theta$

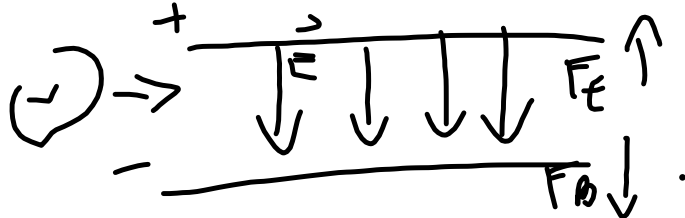
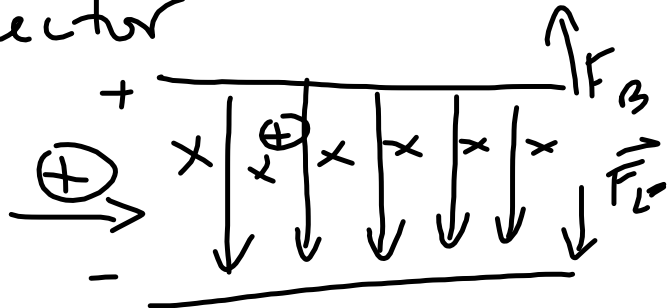
→ $r = \frac{mv}{qB}$ ← speed



→ velocity selector

$$v = \frac{E}{B}$$


\vec{F}_E \vec{E}
 \vec{F}_B B



$$\rightarrow \left[\frac{q}{m} = \frac{2V}{r^2 B^2} \right] / A20.$$

Science 10

Wednesday, April 20/16

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Assignment: Word Problems - Friday, April 22/16

1. Resultant (Final) Displacement
2. Average Velocity
3. [Worksheet - Constant and Average Velocity Problems - HW](#)

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4. Position-Time Graphs Using the Motion Detector
 5. Worksheets: Position vs Time Graphs (2)
 6. Velocity vs Time Graphs

Physics 122

Wednesday, April 20/16

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Explain That Stuff - April 22/16

Midterm - Tuesday - April 26

1. Experiment 10.2 - Torques (Page 67)
Experiment 9.1 - Conservation of Momentum (Page 55)
April 28/16
 2. Midterm Problems
 3. Check -> Worksheet - Circular Motion
 4. Banked and Unbanked Curve Problems
 5. [Worksheet - Banked and Unbanked Curve Problems - HW](#)
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Midterm Prob.

- opt. 1. push/pull or incline plane
2. Static torque
3. 2D collision/explosion
4. projectile \rightarrow horizontal
5. projectile \rightarrow angle
6. circular motion, banked/unbanked