

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

Monday, April 25/16

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*Library Books

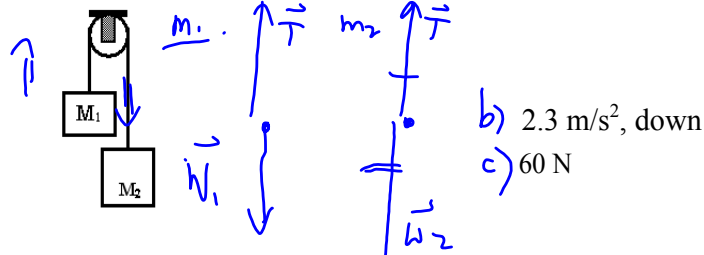
Explain That Stuff - April 28/16

1. Check -Atwood's Machine Problem - Example #2
 2. **A: U2-S2 (Newton's Laws of Motion) - Thursday, April 28/16**
 3. Textbook: Page 485, #19-21 (C10) ← *Atwood's.*
Worksheet: C4 and C5 Force Problems Plus Atwood's Problems
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4. Investigation: Atwood's Machine
5. Newton's Third Law of Motion

2. Two masses are attached to a lightweight cord that passes over a frictionless pulley as shown in the diagram below. The mass of M_1 is 5.0 kg and the mass of M_2 is 8.0 kg.

- Draw an FBD for each mass.
- What is the magnitude and direction of the acceleration of the larger mass?
- What is the magnitude of the tension in the cord?



b) 2.3 m/s^2 , down

c) 60 N

$$F_{\text{net}} = m\vec{a}$$

$$+T - W_2 = M_2(\ominus a)$$

$$T - W_2 = -M_2 a$$

$$T - M_2 g = -M_2 a$$

$$T = M_2 g - M_2 a$$

$$F_{\text{net}} = m\vec{a}$$

$$+T - W_1 = M_1(\oplus a)$$

$$T - W_1 = M_1 a$$

$$T - M_1 g = M_1 a$$

$$T = M_1 g + M_1 a$$

$$M_2 g - M_2 a = M_1 g + M_1 a$$

$$M_2 g - M_1 g = M_2 a + M_1 a$$

$$M_2 g - M_1 g = a(M_2 + M_1)$$

$$\frac{M_2 g - M_1 g}{M_2 + M_1} = a$$

$$M_2 + M_1$$

$$\frac{(8.0)(9.8) - (5.0)(9.8)}{(8.0 + 5.0)} = a$$

magnitude $\rightarrow a = 2.3 \text{ m/s}^2$
 $\left\{ \begin{array}{l} \vec{a} = -2.3 \text{ m/s}^2 \leftarrow \end{array} \right.$

The acc. of M_2 is 2.3 m/s^2 , down

$$T = M_2 g - M_2 a$$

$$T = (8.0)(9.8) - (8.0)(2.3)$$

$$T = \underline{60 \text{ N}}$$

Science 122

Monday, April 25/16

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Midterm - April 28/16 (Thursday)

1. Questions? Worksheet: Pressure and Depth in a Static Fluid
 2. Archimedes' Principle - To Be Continued
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3. Apparent Weight
 4. Worksheet: Archimedes' Principle
 5. Experiment 13.1 - Archimede's Principle

Science 10

Monday, April 25/16

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1. Check -> Worksheet: Position vs Time Graph
 2. Assignment: Word Problems
 3. [Worksheet: Velocity-Time Graphs - HW](#)
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4. Acceleration
 5. Comparing Velocity and Acceleration Directions
 6. Sample Problems
 7. Worksheets - Acceleration Problems

Physics 122

Monday, April 25/16

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Explain That Stuff - April 28/16

Midterm - Tuesday - April 26

1. Questions re Midterm?
 2. Experiment 10.2 - Torques (Page 67)
Experiment 9.1 - Conservation of Momentum (Page 55)
Assignment: Experiment 8.1 - Kepler's Laws - Page 49
Due - April 28/16
 3. Worksheet: Kepler's Laws
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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