

## Physics 112

Monday, January 14/19

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1. SA - U3S3 - Conservation of Energy
  2. Exam Review:
    - Problem #5 - Second Law Problem (Type II)
    - Problem #6 - Second Law Problem (Type III)
  3. Worksheet - Exam Review Problems
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**Exam Review - Problem #5 - Second Law Problem (Type II)**

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A 75 kg bobsled is pushed along a horizontal surface by two athletes. After the bobsled is pushed distance of 4.5 m starting from rest, its speed is 6.0 m/s. Find the magnitude of the net force on the bobsled.

$$3.0 \times 10^2 \text{ N}$$

**Exam Review - Problem #6 - Second Law Problem (Type III)**

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In a physics lab, Amanda applies a 34.5 N rightward force to a cart to accelerate it across a horizontal surface at a rate of  $1.28 \text{ m/s}^2$ . The coefficient of friction between the cart and surface is 0.648. Determine the mass of the cart.

4.52 kg

## Physics 122

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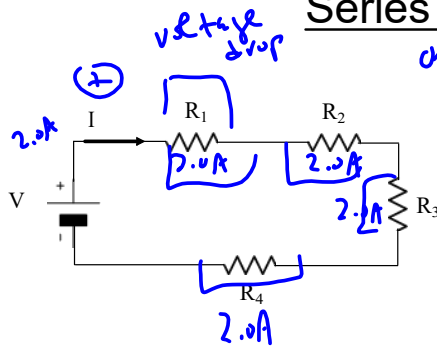


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1. Submit:
  - FA - Coulomb's Law - Three Charged Bodies in a Line
  - FA - Coulomb's Law - Three Charged Bodies at Angles
  - FA - Electric Field Strength
2. Series and Parallel Circuits - Quick Review
3. Questions?
  - [Series Circuits -Textbook: Page 719, #27-31](#)
  - [Parallel Circuits - Textbook: Page 724, C15 - PP#32-35](#)
4. Combination/Complex Circuits
5. Combination/Complex Circuits - [Textbook: Page 728, #36-37](#)  
[Textbook: Page 749, #33-34](#)
6. Review - Electrostatics and Circuits

### Series Circuit



one pathway.

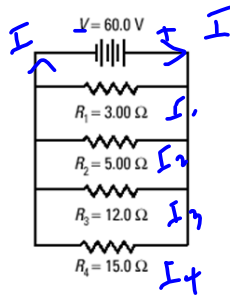
$$I = I_1 = I_2 = I_3 = I_4$$

$$V = V_1 + V_2 + V_3 + V_4$$

$$R_{eq} = R_1 + R_2 + R_3 + R_4$$

### Parallel Circuit

more than 1 pathway



$$I = I_1 + I_2 + I_3 + I_4$$

$$V = V_1 = V_2 = V_3 = V_4$$

$$\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \frac{1}{R_4}$$

VIR       $V = IR$

	V (V)	I (A)	R (ohm)
R <sub>1</sub>			
R <sub>2</sub>			
R <sub>3</sub>			
R <sub>4</sub>			
Total	V	I	R <sub>eq.</sub>

Often →  $V$  given ✓

→ R<sub>1</sub>, R<sub>2</sub>, etc. ✓  
 Calc. R<sub>eq.</sub> ✓

→  $I = \frac{V}{R_{eq.}}$  ✓

## Science 10

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### Progress Reports

1. Science Articles - Complete 8 by the end of the semester.
  2. Practice Exam - Available
  3. Exam Topics - Handout
  4. New Formula Sheet
  5. Average Velocity Calculation - Period 5
  6. Questions?  
Worksheet: Constant and Average Velocity Problems
  7. Position vs. Time Graphs
  8. Worksheet - Position vs Time Graphs
  9. Acceleration
  10. Comparing Directions of Velocity and Acceleration
  11. Acceleration Calculations - Tomorrow for P5
  12. Worksheet - Acceleration
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