

Physics 112

Wednesday, January 10/18

<http://mvhs.nbed.nb.ca/>



<http://mvhs-sherrard.weebly.com/>



Progress Reports

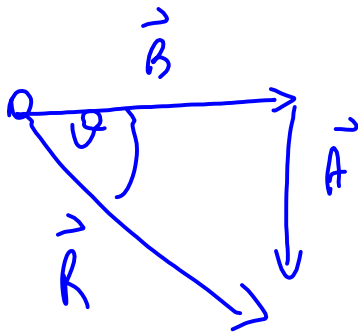
1. Exam Review - Problem #3
 2. Questions?
Worksheet - Waves: Frequency, Period and Wave Speed
 3. Summary - Measures of A Wave
 4. Concepts - U4: S2 - Wave Behaviors
 5. Reflection
 6. Diffraction
-
7. Refraction

P112 - Exam Review - Problem #3

Calculate \vec{R} .

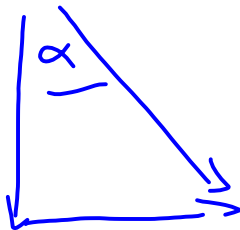
$\vec{A} = 28.9 \text{ m/s}^2$, S and $\vec{B} = 37.1 \text{ m/s}^2$, E. Calculate \vec{R} .

$$\begin{array}{l} \vec{A} = 28.9 \text{ m/s}^2, \text{ S} \\ \vec{B} = 37.1 \text{ m/s}^2, \text{ E} \end{array} \quad \left| \quad \begin{array}{l} A = 28.9 \text{ m/s}^2 \\ B = 37.1 \text{ m/s}^2 \end{array} \right.$$



$$\begin{aligned} R^2 &= A^2 + B^2 \\ R &= \sqrt{A^2 + B^2} \\ R &= \sqrt{(28.9)^2 + (37.1)^2} \\ R &= \underline{47.0 \text{ m/s}^2} \end{aligned}$$

$$\tan \theta = \frac{A}{B}$$



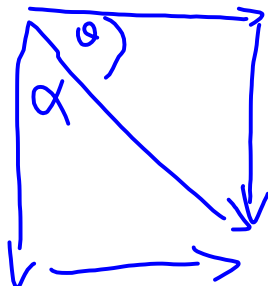
$$\boxed{\tan \theta = \frac{28.9}{37.1}}$$

$$\theta = 37.9^\circ$$

$$\vec{R} = 47.0 \text{ m/s}^2, 37.9^\circ \text{ S of E.}$$

or

$$\underline{52.1^\circ \text{ E of S.}}$$



Summary Measures of a Wave

$$L \propto A^2$$

Quantity	Symbol	Unit
amplitude	A	cm, m, km
wavelength	λ	cm, m, km
frequency	f	s ⁻¹ , Hz
period	T	s
wave speed.	v	m/s

$$f = \frac{\#}{t} \quad T = \frac{1}{f} \quad v = \left[\frac{d}{t} \right], \quad v = [f\lambda], \quad v = \left[\frac{\lambda}{T} \right]$$

$$\frac{d}{t} = f\lambda = \frac{\lambda}{T}$$

Physics 122

Wednesday, January 10/18

<http://mvhs.nbed.nb.ca/>

<http://mvhs-sherrard.weebly.com/>

Mrs. Stewart's Roller Coasters

1. Exam Topics and Format
 2. Worksheet - Textbook: C15, Page 708, #16-20
Worksheet - Textbook: C15, Page 714, #21-25
Worksheet - Textbook: Page 737, #40-42
Page 744, #46-50
Series -> Textbook: Page 719, C15 - PP#27-31
Parallel -> Textbook: Page 724, C15 - PP#32-35
 3. Combination/Complex Circuits
 4. Complex -> Textbook: Page 728, C15 PP#36-37
 5. **SA - U3 - S2 - Electric Circuits -> Friday, January 12/18**
 - MC: 10 max
 - Problems: electric current ($I = q/t$)
resistance in a wire ($R = \rho \frac{L}{A}$)
power ($P = IV$)
complex circuit
-

Science 10

Wednesday, January 10/18

<http://mvhs.nbed.nb.ca/>

<http://mvhs-sherrard.weebly.com/>

1. **Roller Coasters - Due: Wednesday, Jan. 17/18**
 2. Exam Topics
 3. Practice Exam
 4. Return -> FA - Constant Velocity/Average Velocity
 5. Check -> Example: Position vs Time
 6. **Worksheets: Position vs. Time Graphs - HW**
 7. Velocity vs Time Graphs
-
8. Worksheet - Velocity vs Time Graphs
 9. Acceleration
 10. Comparing Directions of Velocity and Acceleration
 11. Sample Problems -Acceleration
 12. Worksheet - Acceleration Problems

FA - Constant Velocity/Average Velocity

How long would it take a car to travel 200.0 km [W] if it is traveling at a constant velocity of 55.0 km/h [W]?

$$t = ?$$

$$\vec{v} = -55.0 \text{ km/h}$$

$$\Delta \vec{d} = -200.0 \text{ km}$$

$$\vec{v} = \frac{\Delta \vec{d}}{t}$$

$$t = \frac{\Delta \vec{d}}{\vec{v}}$$

$$t = \frac{-200.0 \text{ km}}{-55.0 \text{ km/h}}$$

$$t = 3.64 \text{ h}$$

(3.64)

It takes 3.64 h.