

## Science 10

Monday May 29/17

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1. Test - Physics Unit -> Marks
2. Assignment - Tangled Web: **Due - Tuesday, May 30/17**
3. Roller Coasters

## Physics 112

Monday, May 29/17

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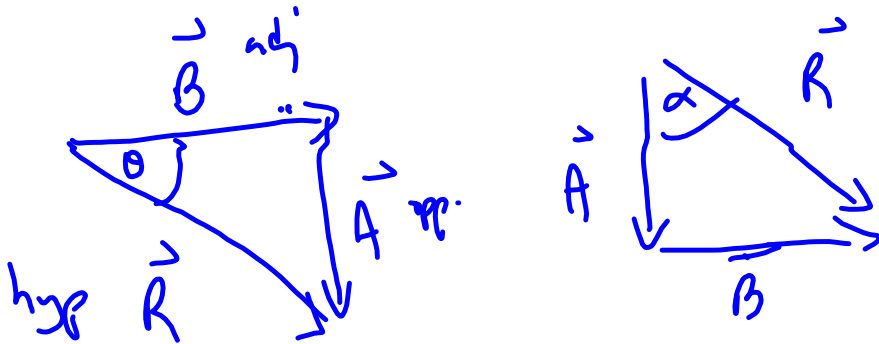
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### More Exam Topics

1. Exam Review - Calculating  $\vec{R}$
  2. Amplitude
  3. Wavelength
  4. Frequency and Period
  5. Wave Speed - To Be Continued
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6. Summary - Measures of a Wave
  7. Worksheet - Waves: Frequency, Period and Wave Speed

Exam Review - Calculating  $\vec{R}$ 

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



$$\tan \theta = \frac{28.9}{37.1} \quad \tan \alpha = \frac{37.1}{28.9}$$

$$\theta = 37.9^\circ \quad \alpha = 52.1^\circ$$

$$R = \sqrt{A^2 + B^2}$$

$$R = \sqrt{28.9^2 + 37.1^2}$$

$$R = 47.0 \text{ m/s}^2$$

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

$$\vec{R} = 47.0 \text{ m/s}^2, \quad 52.1^\circ \text{ E of S.}$$

[10]

## Physics 122

Monday, May 29/17

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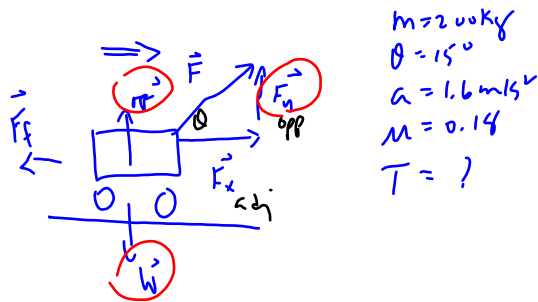
### Exam Review - Push/Pull

1. Check -> Worksheet - Electric Field Strength
  2. SA - U3 S1 -> Wednesday, May 31/17
  3. Circuit Symbols
  4. Conventional Current vs. Electron Flow
  5. Open and Closed Circuits
  6. Ammeters and Voltmeters
- 
7. Resistance to Flow of Charge
  8. Worksheet - Resistance
  9. Ohm's Law
  10. Power
  12. Series Circuits

## Exam Review - Push/Pull

A 200 kg cart is pulled along a level surface by a rope angled at  $15^\circ$  above the horizontal. If the cart's speed increases at a rate of  $1.6 \text{ m/s}^2$ , what is the magnitude of the tension in the cable? Assume the coefficient of friction between the cart and the surface is  $0.18$ .

- ① sketch.
- ② Fnet equations



<p>Horizontal</p> $\vec{F}_{\text{net}} = m\vec{a}$ $F_x - F_f = ma$ $F \cos 15^\circ - \mu N = ma$	<p>Vertical</p> $+N - W + F_y = 0$ $N = W - F_y$ $N = (mg - F \sin 15^\circ)$
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$N \neq W$

$$F \cos 15^\circ - \mu (mg - F \sin 15^\circ) = ma$$

$$F \cos 15^\circ - \mu mg + \mu F \sin 15^\circ = ma$$

$$F \cos 15^\circ + \mu F \sin 15^\circ = ma + \mu mg$$

$$F (\cos 15^\circ + \mu \sin 15^\circ) = ma + \mu mg$$

$$F = \frac{ma + \mu mg}{\cos 15^\circ + \mu \sin 15^\circ}$$

$$F = 6.6 \times 10^2 \text{ N}$$

(W)