Science 10
Monday, June 4/18

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Roller Coaster: Due: Wednesday, June 6/18

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1. Topics - SA Physics #3

2. Review - SA Physics #3

3. SA Physics #3 - _Wed_ .

4. Exam Topics and Practice Exam

5. Roller Coasters

Topics - SA Physics #3

1. definitions: physical quantities, scalar quantity, distance, time, speed, average speed, vector quantity, reference point, magnitude, direction, position, displacement, velocity, resultant displacement, average velocity, acceleration, uniform motion, uniformly accelerated motion

2. symbols and units for physical quantities

3. rearrange an equation for a specified variable

4. perform metric conversions using conversion factors

5. use rise and run to determine the slope of a line

6. (i) draw and label a distance vs. time graph
    (ii) answer questions about distance vs. time graphs

7. (i) draw and label a position vs. time graph
    (ii) answer questions about position vs. time graphs

8. (i) draw and label a velocity vs. time graph
    (ii) answer questions about velocity vs. time graphs

9. draw a velocity-time graph for a given position-time graph

10. describe the motion of an object by comparing the directions of the object's velocity and acceleration

11. provide full solutions for the following types of word problems:
    (i)   average speed
    (ii)   displacement
    (iii) constant velocity
    (iv)   average velocity
    (v)   acceleration

Physics 112
Monday, June 4/18

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1. Exam Review - Problem #6 -> See Next Page

2. Last Set of Worksheets

3. **SA** - Types of Energy, Work-Energy Theorems and Energy Conservation
     - Wednesday, June 6/18

4. Switcheroo (Optional) - Thursday

5. Exam Format + Review (Problems and MC)

Formula Sheet: $ME = E_k + E_g + E_e$

Exam Review - 2nd Law Problem   #6 June 4

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.

2nd Law Type 2 or 3 ?

$m = 75 \, kg$

$\Rightarrow$ east

$d = 4.5 \, m$

$v_1 = 0 \, m/s$

$\vec{F}_{net} = m\vec{a}$

$\vec{v}_f = 6.0 \, m/s$

$\vec{v}_f^2 = \vec{v}_i^2 + 2\vec{a}\vec{d}$

$\vec{a} = ?$

$$\vec{a} = \frac{\vec{v}_f^2}{2\vec{d}}$$

$$\vec{a} = \frac{(6.0)^2}{2(4.5)}$$

keep 3 SD. $\vec{a} = 4.00 \, m/s^2$

$\vec{F}_{net} = m\vec{a}$

$\vec{F}_{net} = (\quad)(\quad)$

$\vec{F}_{net} = $ 3.0 x 10² N

why 2 N

2.0 x 10 N

1

Physics 122
Monday, June 4/18

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* Changes made to exam outline.
   (MC = 20, Prob = 10 - Circ. and Rel. Vel no longer a choice)
* FA for last section instead of SA.

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1. Worksheets - Speed, Period, Etc.

2. FA - Problems from Last Section

3. Last Semester's SAs for Exam Review

4. Day for Switcheroo - 3 Problems: _____ Thursday. _____

Science 122
Monday, June 4/18

1. Science 122 - Exam Topics and Format

2. Chemistry 30:
   Unit 6: Redox Reactions and Electrochemistry

3. Last Assessment -> FA

4. Switcheroo - Problems : _____Friday._____ [5]