Physics 112

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

Friday, May 17/19

FA Duo-Tangs -> Submit Friday

SA - U3 S1&2 -> Wednesday, May 22/18

-> Work, Types of Energy and W-E Theorems

1. FA - Kinetic Energy
   FA - Work-Kinetic Energy Theorem
   FA - Work-Kinetic Energy Theorem (Problem)
   } 2 Days Late

2. Worksheet - Textbook - C6 PP #35-37 -> Hooke's Law
   Textbook - C6 PP #38-40 - Hooke's Law and E_e
   Worksheet - Textbook - C6 PFU
   #16-17, 20 , 23-25, 27-28(a-c), 30-31
   Worksheet - Types of Energy and Work-Energy Theorems (D2017)

3. Investigation 6-A: Force and Spring Extension

FA → ΔE_g.

Planet X.

$m = 0.50\,kg$

$d = 2.5\,m$

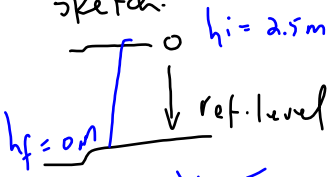
$\Delta E_g = -20\,J$

$g = ?$

$\Delta E_g = E_{gf} - E_{gi}$

* reference line

sketch:



$\Delta E_g = E_{gf} - E_{gi}$

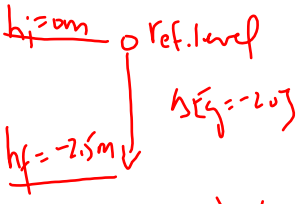
$\Delta E_g = -mgh_i$

$g = \frac{\Delta E_g}{-mh_i}$

$g = \frac{-20}{-(0.50)(2.5)}$

$g = 16\,m/s^2$

magnitude.



$\Delta E_g = E_{gf} - E_{gi}$

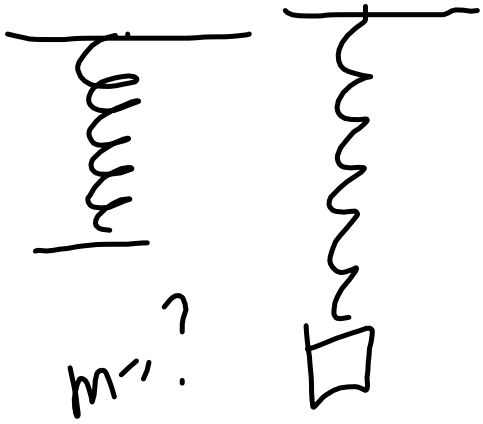
$\Delta E_g = mgh_f$

$g = \frac{\Delta E_g}{mh_f}$

$g = \frac{-20}{(0.50)(-2.5)}$

$g = 16\,m/s^2$

FA - Elastic Pot. E. $\left[\begin{array}{l} E_e = \frac{1}{2}kx^2 \\ F = kx \end{array}\right.$



$x = 3.0\,cm = 0.030\,m$

$E_{ef} = \frac{1}{2}kx_f^2$

$k = \frac{2E_{ef}}{x_f^2}$

$k = \frac{\quad}{3\,s^2}\ N/m$

$F = kx$

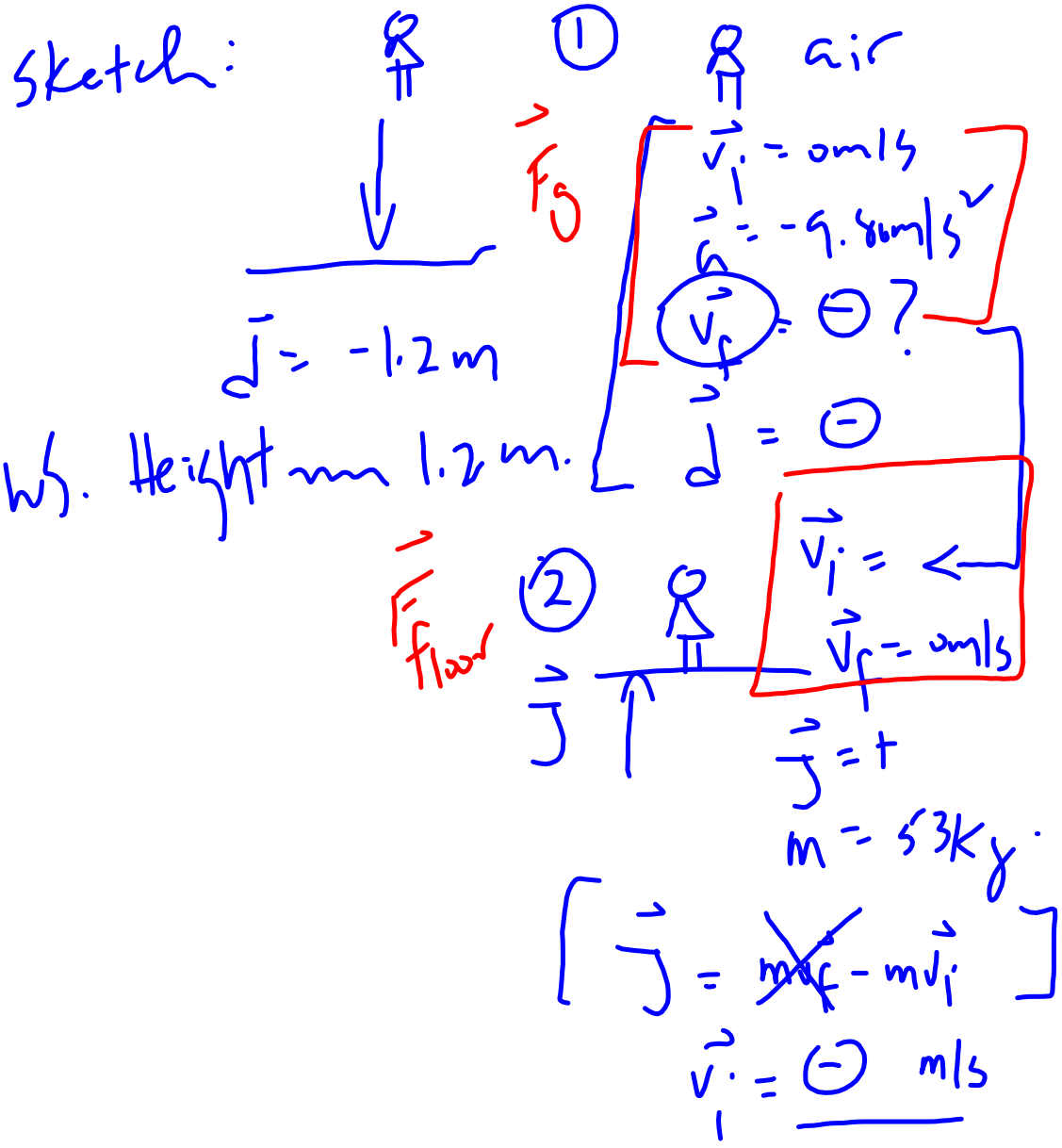
$F_g = kx$

$mg = kx$

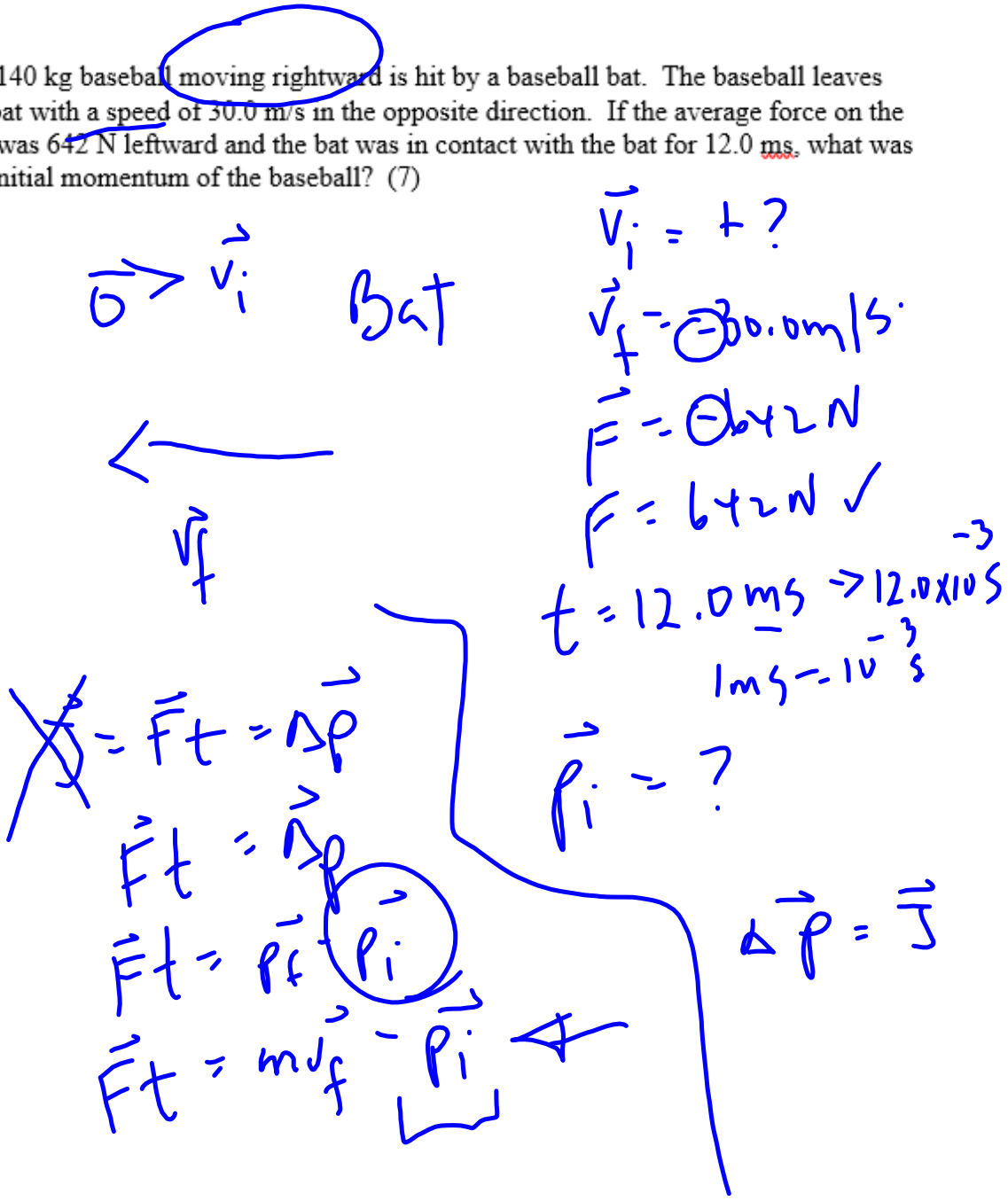
$m = \frac{kx}{g}$

$F_g\,(weight) = mg$

3. A 53 kg person steps off of a desk. If the impulse the floor exerts on the person is 257 kgm/s upward, what is the height of the desk? (8)



5. A 0.140 kg baseball moving rightward is hit by a baseball bat. The baseball leaves the bat with a speed of 30.0 m/s in the opposite direction. If the average force on the ball was 642 N leftward and the bat was in contact with the bat for 12.0 ms, what was the initial momentum of the baseball? (7)



Physics 122

Friday, May 17/19

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Submit FA duo-tangs Friday.

1. Questions?
   Worksheet - Pendulums -> Text: C13 Page 614, PP #5-8
   Text: C13 Page 623, PFU #28
   Worksheet - Text: Page 608, PP #1-4 (Mass on a Spring)
   Text: Page 623, PFU #23-27, 30 (Mass on a Spring and Pendulums)

   Worksheet: SHM - Problems

2. FAs - SHM -> Tuesday

Science 122

Friday, May 17/19

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1. Check:
   BLM 16-1: Right-Hand Rules
2. Worksheet - MC Magnetic Fields and Hand Rules
3. Electric Motors
4. Calculating Strength of a Magnetic Field
5. Worksheet - Magnetic Field Produced by a Wire
6. The Force On A Wire Due To A Magnetic Field

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7. Worksheet - The Force On A Wire Due To A Magnetic Field
8. Force on a Single Charged Particle
9. Modified Hand Rule #3
10. Worksheet - Magnetic Force on a Single Charged Particle

Science 10

Friday, May 17/19

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1. SA - Physics #1
2. Slope - Horizontal and Vertical Lines
3. Physical Quantities
4. Distance Vs Time Graph
5. Slope of Distance vs Time Graph
6. Worksheets - Distance vs Time Graphs
7. Roller Coasters