{ May 27 - Professional Learning Day (Friday) }

Physics 112

Tuesday, May 24/16

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

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

Explain That Stuff - May 26/16

1. Check -> Worksheet: Textbook: Page 258, PP # 35-37 (Hooke's Law)
   Textbook: Page 261, PP #38-40 (Elastic Energy)

2. Assignment -> Investigation 6-A Force and Spring Extension
   -> Optional
   -> Due: Thursday, May 26/16

3. U3 - S3: Power and Efficiency

4. Worksheet: Textbook: Page 266 #41-43 -> Power
   Textbook: Page 270 #44-48 -> Efficiency } HW

5. Assignment: U3 - S2 and S3 -> TBA

Science 122

Tuesday, May 24/16

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

1. Energy Level Diagrams - Continue
2. Worksheet: Nuclear - Energy Levels
3. Test - Nuclear Physics -> Monday, May 30/16

4. Last Topic - Electrochemistry

Science 10

Tuesday, May 24/16

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

Roller Coasters - Deadline: Thursday, May 26/16

---

1. Article - 3 Days Late
2. Assignment - Oh What a Tangled Web We Weave
   - 1 Day Late
3. Roller Coasters

Physics 122

Tuesday, May 24/16

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

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

Explain That Stuff - May 26/16

1. * Test - Unit 2 -> +1?
2. Check -> Worksheet: Charge and Coulomb's Law (2 Charges)

   Worksheet - Textbook: Page 640, #7, 8
3. Electric Fields - Diagrams
   - Strength/Intensity
4. Worksheet - Textbook: C14 - Page 646 PP #11-14
   Page 646 PP #20-24 } HW

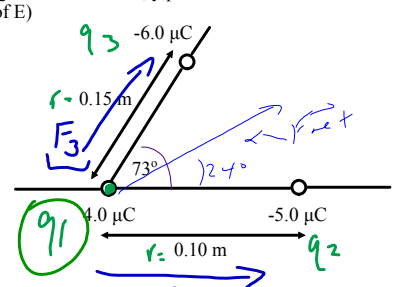
Example:

The diagram shows three point charges that lie in the x, y plane. Find the net force on the 4.0 μC point charge. (23 N, 24° N of E)

$q_1 = 4.0\times10^{-6}\,C$

$q_2 = 5.0\times10^{-6}\,C$

$q_3 = 6.0\times10^{-6}\,C$



$F_2 = \frac{k q_2 q_1}{r^2}$

$F_2 = \frac{(9.0\times10^9)(5.0\times10^{-6})(4.0\times10^{-6})}{(0.10)^2}$

$F_2 = 18.0\,N$

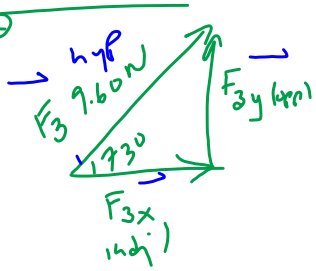
$\vec{F}_{2x} = +18.0\,N$

$\vec{F}_{2y} = 0\,N$

$F_3 = \frac{k q_3 q_1}{r^2}$

$F_3 = \frac{(9.0\times10^9)(6.0\times10^{-6})(4.0\times10^{-6})}{(0.15)^2}$

$F_3 = 9.60\,N$



$\vec{F}_{3x} = +F_3\cos73^\circ$

$\vec{F}_{3x} = +(9.60)\cos73^\circ$

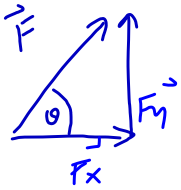
$\vec{F}_{3x} = +2.807\,N$

$\vec{F}_{3y} = +F_3\sin73^\circ$

$\vec{F}_{3y} = +9.181\,N$

$\vec{F}_x = \vec{F}_{2x} + \vec{F}_{3x}$

$\vec{F}_x = +20.807\,N$



$\vec{F}_y = \vec{F}_{2y} + \vec{F}_{3y}$

$\vec{F}_y = +9.181\,N$

$F = \sqrt{F_x^2 + F_y^2}$

$\tan\theta = \frac{F_y}{F_x}$

23 N, 24° N of E

Textbook: Page 640, #7, 8

Coulomb's Law - Three Charges

PRACTICE PROBLEMS

6. A single isolated proton is fixed on a surface. Where must another proton be located in relation to the first in order that the electrostatic force of repulsion would just support its weight?

7. Three charged objects are located at the vertices of a right triangle. Charge A (+5.0 μC) has Cartesian coordinates (0,4); charge B (–5.0 μC) is at the origin; charge C (+4.0 μC) has coordinates (5,0), where the coordinates are in metres. What is the net force on each charge?

8. The diagram shows three charges situated in a plane. What is the net electrostatic force on q_1?