May 23 - Victoria Day (Monday)

May 27 - Professional Learning Day (Friday)

Physics 112

Friday, May 20/16

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

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

Explain That Stuff - May 20/16

1. Check -> Worksheet - Textbook: Page 254, PP # 30-33
2. Hooke's Law
3. Elastic Potential Energy
4. Worksheet: Textbook: Page 258, PP # 35-37 (Hooke's Law)
   Textbook: Page 261, PP #38-40 (Elastic Energy) } HW
5. Investigation 6-A Force and Spring Extension

Science 122

Friday, May 20/16

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

1. Check -> Worksheet: Energy of Photons, Work Function, Etc.
2. Wave-Particle Duality
3. deBroglie Wavelength
4. Bohr and Atomic Structure
5. Energy Level Diagrams - To Be Continued

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6. Worksheet: Nuclear - Energy Levels

Science 10

Friday, May 20/16

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

Roller Coasters - Deadline: Thursday, May 26/16

1. Article - 2 Days Late
2. Assignment - Oh What a Tangled Web We Weave
   - Due -> Today, May 20/16
3. Roller Coasters

Physics 122

Friday, May 20/16

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

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Explain That Stuff - May 20/16

1. * Test - Unit 2 -> +1?
2. Check -> Worksheet: Charge and Coulomb's Law (2 Charges)
3. Coulomb's Law Three Charges - See Next Page
4. Worksheet - Textbook: Page 640, #7, 8 -> HW

5. Electric Fields - Diagrams
   - Strength/Intensity
6. Worksheet - Textbook: Page 640, #7, 8

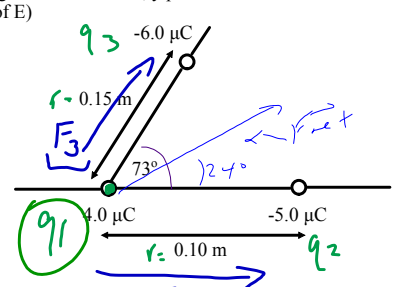
Example:

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)

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

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

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



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

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

$F_2 = 18.0\,N$

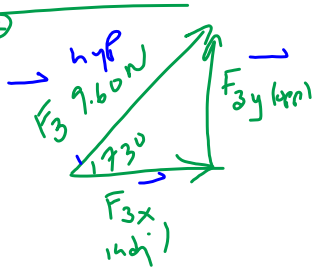
$\vec{F}_{2x} = +18.0\,N$

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

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

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

$F_3 = 9.60\,N$



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

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

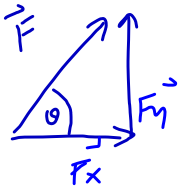
$\vec{F}_{3x} = +2.807\,N$

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

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

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

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



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

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

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

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

$23\,N,\ 24^\circ\ N\ of\ E$

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?