


Wednesday, May 13/15  
Science 122

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1. Carnot's Principle and Carnot's Engine - Page 428
  2. Cutnell – Page 446: #46-51
  3. Third Law of Thermodynamics
  4. Test: Thermodynamics - Thursday, May 21/15
  5. Topic 7 - Electrochemistry
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1. Electric Fields - Continue
2. Textbook: Page 646, #11-14  
Textbook: Page 655, #20-24 } HW
3. Electric Potential Energy - To Be Continued
4. Electric Potential Difference
5. Textbook: Page 678, 42-45, 47, 50

Worksheet

#5.

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

a)  $2q_2$       c)  $\frac{1}{2} q_1, 3q_2$   
 b)  $3d$       d)  $2q_2, 3d$   
 e)  $\frac{1}{2} q_1, \frac{1}{4} q_2, \frac{1}{4} d$

a)  $\sqrt{2} F$        $F_n = k \frac{q_1 (2q_2)}{r^2}$       c)  $\frac{3}{2} F$   
 b)  $\frac{1}{9} F$       d)  $\frac{2}{9} F$   
 e)  $2F$  ★

$\frac{\frac{1}{2} \cdot \frac{1}{4}}{\left(\frac{1}{4}\right)^2} = \frac{1}{8} \cdot \frac{16}{1} = 2$

#7.  $q_1 = 4.0 \times 10^{-6} C$        $F = k \frac{q_1 q_2}{r^2}$   
 $F = 7.2 N$   
 $r = 0.050 m$        $F r^2 = k q_1 q_2$   
 $q_2 = ?$        $q_2 = \frac{F r^2}{k q_1}$

$\Rightarrow q_2 = \frac{(7.2)(0.050)^2}{(9.0 \times 10^9)(4.0 \times 10^{-6})}$   
 $q_2 = 5.0 \times 10^{-7} C$

#8.  $r = ?$

$q_1 = 1.0 \mu C = 1.0 \times 10^{-6} C$   
 $q_2 = 1.0 \mu C = 1.0 \times 10^{-6} C$   
 $F = 4.0 N$

attraction

$F = k \frac{q_1 q_2}{r^2}$   
 $F = 10 N$

Wednesday, May 13/15  
Science 10

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1. Average Velocity - Period 6 - Finish Example
  2. Worksheet: Average Speed, Velocity and Average Velocity
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3. Position-Time Graphs
  4. Velocity-Time Graphs
  5. Chapter 12: Displacement, Velocity and Acceleration (Page 444)
  6. Acceleration