

AP Physics C- Mechanics Summer Assignment

2016-2017

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Welcome to the AP Physics C- Mechanics Course. As you might be aware, this AP course is equivalent to an introductory course in Mechanics for College Physics or Engineering majors. This is a challenge that would involve covering a lot of topics in a relatively short time. We would like to assure you that with consistent effort and determination you will not only be able to master the topics but will also unveil the fascinating world of Physics, which would lead you to exciting careers in science and technology.

The following topics will be covered in the course: Physics- Measurement, Motion in One and Two dimensions, Vectors, Newton's laws of motion, Circular motion, Energy, Momentum, Rotational kinematics, Angular momentum, Equilibrium, Universal Gravitation, Oscillations and Waves. This year you will apply these concepts to more advanced level problems. The pace of the course will be very different than what you had in the Physics 1 course.

During the course of the summer you will complete a number of problems from the textbook and also from previous College Board exams. Textbooks will be available for sign-out in the Magnet and AIT offices Monday-Thursday from 8:00 a.m. to 4:30 p.m. All problems in the summer assignment packet are a review of previously learned material in Physics 1 course. This packet contains two sections. Section A contains questions from the first four chapters of the course text book. Answers to all odd number problems are given at the end of the text book. Section B contains questions from the previous College Board exams.

When completing problems, do not just put the answer; you must show all givens, what you are looking for (unknown), equations you are using for a solution, and the plug-in with answer. (See example problem)

When working problems follow this format:

A drag racer starts from rest, and accelerates at 7.40-m/s^2 . How far has it traveled in 2.00-s ?

Given: $v_i = 0$ $a = 7.40\text{ m/s}^2$ $t = 2.00\text{ s}$

Unknown: distance

Equation: $d = v_i t + \frac{1}{2} a t^2$

Solution: $d = (0)(2) + \frac{1}{2}(7.4)(2)^2$

$d = 0 + 14.8 = \mathbf{14.8\text{ m}}$

Due Date: Assignment is due on **September 6, 2016**

Please note that hand written or typed assignments are welcome. Hand written assignments must be legible and neat.

We will review Chapter 1 on the first day of class, Chapter 2 on the second and third day of class and the first test will be on the fourth day of class. Late assignments will not be accepted.

Student who do not complete the assignments over the summer have typically not done well in class. Please make the commitment to complete the work and invest the time for the course as stipulated in the AP contract you and your parent signed.

We are looking forward to an exciting year in the AP Physics C Mechanics class. Have a great summer. See you in September.

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