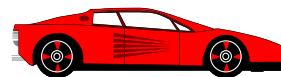# AP PHYSICS C
SUMMER ASSIGNMENT

Future AP Physics C Students,

Here is your much-anticipated summer assignment. The purpose of this assignment is not to punish you for signing up for the course, but to help refresh your memory of some basic physics principles and get a jump-start on our upcoming challenge.

In your textbook, you will need to read sections from chapters 1-4, and complete the selected problems at the end of each chapter. The only exception will be chapter two which requires some calculus skills. Read chapter two thoroughly. I'll teach these skills during the first week or so of school, and we'll have first exam shortly thereafter.

Some problems will require a substantial amount of effort to complete. There will also be some new material introduced. Feel free to google the solutions for further understanding. Be sure to complete the assignment for the first day of classes. This assignment will NOT be accepted late, and it will not receive partial credit if it is incomplete. Double check that all questions have been completed.

The problems are to be done on separate white lined paper, showing at least the equation, substitution with units, and answer with units. It is to be done neatly, as it reflects your pride in your work.
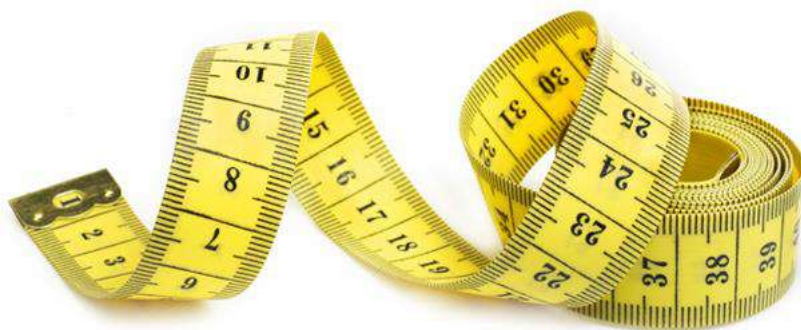
Enjoy your summer!!!

Sincerely,
Mr. Hardy

AP PHYSICS C

CHAPTER 1 ASSIGNMENT

Reading:

1.1 – 1.6

Problems:

1.1   1, 2, 6

1.3   9, 10, 12

1.4   17, 18, 28, 29

1.5   31, 33, 34

1.6   36, 37, 38

ANSWERS TO EVEN-NUMBERED PROBLEMS

P1.2 $2.15 \times 10^4 \text{ kg/m}^3$

P1.6 $\dfrac{4\pi \rho \left(r_2^3 - r_1^3\right)}{3}$

P1.10   (a) and (f); (b) and (d); (c) and (e)

P1.12 $\dfrac{m^3}{kg \cdot s^2}$

P1.18 9.19 nm/s

P1.28   (a) $3.39 \times 10^5 \text{ ft}^3$; (b) $2.54 \times 10^4 \text{ lb}$

P1.34 10^7 rev

P1.36   (a) 3; (b) 4; (c) 3; (d) 2

P1.38   (a) 796; (b) 1.1; (c) 17.66

AP Physics C
Chapter 2 Homework

Reading:

2.1 – 2.7

Problems:

NONE ASSIGNED IN CHAPTER 2

READING ONLY

AP Physics C
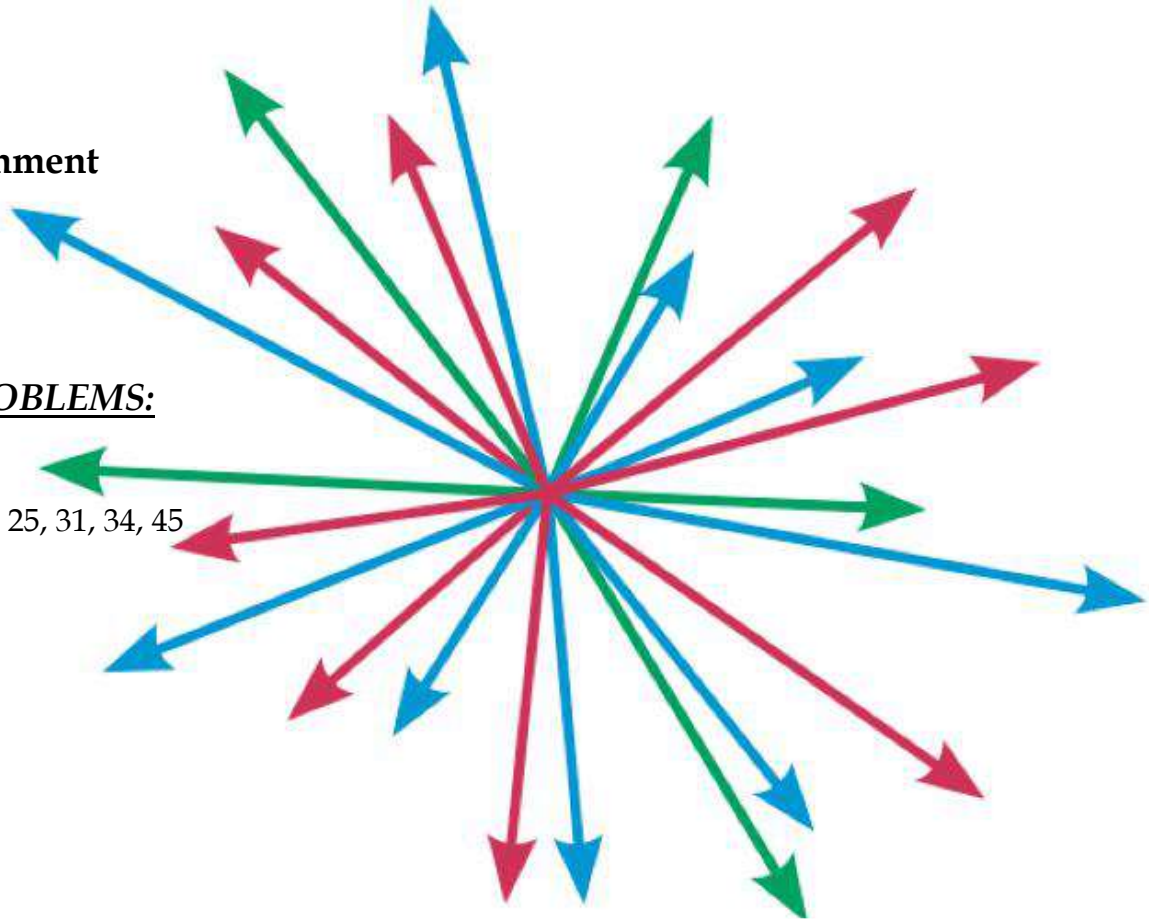# Chapter 3 Assignment

Chapter 3 Assignment

Reading
3.1 – 3.4

CHAPTER 3 PROBLEMS:

3.1   1, 4
3.3   7, 10, 14
3.4   15, 21, 23, 24, 25, 31, 34, 45

SOLUTIONS TO EVEN NUMBERED PROBLEMS

P3.4   (a) (2.17, 1.25) m, (−1.90, 3.29) m; (b) 4.55m

P3.10   9.5 N, 57° above the x axis

P3.14   310 km at 57° S of W

P3.24   788 miles at 48.0° northeast of Dallas

P3.34   59.2° with the x axis, 39.8° with the y axis, 67.4° with the z axis

AP PHYSICS C

Chapter 4 Assignment

Reading

Read   4.1 - 4.2
          4.3
          4.4
          4.5
          4.6   *Read Only*
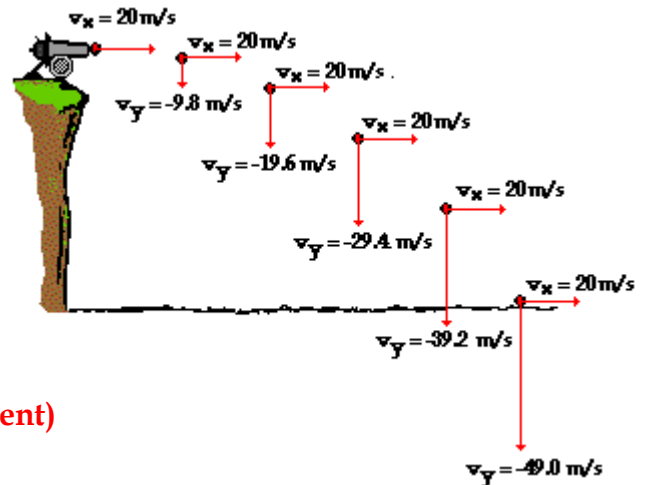

CHAPTER 4 PROBLEMS:

4.1   # 2, 3, 5 **(SKIP 3 & 5 on summer assignment)**
4.2   # 7, 10 **(SKIP 7 on summer assignment)**
4.3   # 12, 13, 16, 20, 23
4.4   # 33, 35, 36, 37
4.5   # 40, 43

SOLUTIONS TO EVEN NUMBERED PROBLEMS:

P4.2   2.50 m/s
P4.10   (a) $\vec{v}_f = (3.45 - 1.79t)\hat{i} + (2.89 - 0.650t)\hat{j}$;

          (b) $\vec{r}_f = (-25.3 + 3.45t - 0.893t^2)\hat{i} + (28.9 + 2.89t - 0.325t^2)\hat{j}$

P4.12   0.600 m/s²
P4.16 $x = 7.23 \times 10^3$ m, $y = 1.68 \times 10^3$ m
P4.20   (a) 22.6 m; (b) 52.3 m; (c) 1.18 s
P4.36   10.5 m/s, 219 m/s² inward
P4.40   (a) 13.0 m/s²; (b) 5.70 m/s; (c) 7.50 m/s²