

Homework Details

The goal of the homework is for you to practice. In some ways, physics is like a sport or like playing a musical instrument. It is not enough to know intellectually how to throw a football pass or how to play arpeggios on the piano. To actually hit the receiver or make it to Carnegie Hall, you have to **practice**.

For physics, that practice is homework. Like sports or music, it is more important to try than to worry about getting it right the first time. If you already know the solution, it isn't a **problem**, but an exercise. To encourage you to work on the challenging homework problems, I am grading *partially* on effort.

The important part of your homework is **how** you solve the problem, not the number that you get as a result. If the number were really important, it wouldn't already be in the back of the book. Consultation and collaboration with your fellow students is recommended, but the homework solutions you hand in must be your own work.

To make the homework process more effective, please follow these guidelines:

- No more than two homework problems per page.
 - This is to allow you plenty of room for corrections and room for your ideas. You don't have to use new paper; the clean side of scrap paper from the recycling bin is fine.
- Use algebra when working the problem. Although it seems to make the problem easier, substituting numbers in makes it harder to understand the physics.
- Check your answer at the end to see if it makes sense. Are the units right? Is the order of magnitude of your number plausible?
- **For full credit, your solution must be clear enough to be easily understood by the grader. Your work should be organized and in a logical order. Neatness counts.**

Homework grading scale (patterned off Thomas Moore's approach at Pomona):

- 5 pts: good effort with no errors (correct results and reasoning and well-explained)
- 4 pts: good effort but with minor errors OR fair effort (*i.e.* not well-explained) with no errors
- 3 pts: good effort with modest conceptual or math errors OR fair effort with minor errors
- 2 pts: good effort with serious errors OR fair effort with modest conceptual or math errors
- 1 pt: very poor effort
- 0 pts: no effort

Special cases: Great effort but wrong problem! 2 pts
 Correct answer but no work 1 pt

Homework solution outlines will be posted on Woodle. You should use these solutions to correct your work. Seeing and understanding why you made an error is the only way to not repeat the error on an exam!

The secret to success in this course is taking the homework seriously! Work the problems AND then use the posted solutions to see where you may have made errors.

No late homework is accepted.

Homework solutions and corrections

Homework solution outlines will be posted on the website the day that they are due. Depending on whether I have written the solutions myself or not, these “solutions” may skip steps that you should not, so do not consider them a good example of what your work should look like! You should then use these solutions to correct your work.

You may resubmit your corrected homework to earn **up to 2 of the points** that you missed in the initial submission. (You cannot earn more than the initial problem value of 5 points.)

The correction scale is:

- 2 pts: everything is corrected
- 1 pt: some things were uncorrected
- 0 pts: major errors uncorrected

Guidelines for the corrections:

- Corrections should be worked on the original homework problem. Do not recopy the whole thing. If there is absolutely room on your original sheet, circle your error and work the new section of the problem on a separate piece of paper. And next time, be sure to leave enough room in your homework for the corrections.
- Corrections should be done in some different color ink (purple and green generally work well; red works less well because I use red).
- A correction should **indicate the error you made** and include the new steps/calculations to make the problem correct.
- You may submit corrections for up to half of the HW problems due in a given week.
- You may hand in these corrections up to one week after the original was returned to you.

Please note two key points for earning credit on the corrections:

First, you must identify your error. For example “I was confused about which time I wanted” or “I included gravity as an acceleration in x.” Something like “I was confused” is not enough. The learning component of the corrections comes from identifying and correcting your error. You need to be specific, or you will not get credit for the corrections.

Second, you must work the problem in your own words and not simply copy the steps from the posted solutions. I am not giving you points for your copying skills. You should compare your work and the posted solution, then I recommend you put the solution away and work the steps to redo the problem without looking at it (except to double check steps). I will not give credit for corrections with substantial missing steps or steps identical to the solutions.