PHY208 : an introduction to problem solving

This sheet will be distributed to students

Organization

- 10′ : Debrief from the lecture and the previous tutorial
- 30′ : Start working on the problem by yourselves, no help from the professors
- 40′ : Possible discussion with the professors if need be
- 30′ : One group present their solution, discussion with the other groups

This group writes down a short report on the problem and send it to the professors by Monday. This report will be printed and distributed to the other groups.

Guidelines

1. Understand the problem
   (a) Make a drawing.
   (b) Select of model suited for the problem.
   (c) Introduce the corresponding quantities, give them a name, identify which are data and which are unknown.
2. Make a plan
   (a) Write down the physical laws at stake in the problem.
   (b) Identify which parts of the lecture will be useful for the problem.
   (c) Find a path from the data to the unknowns.
3. Carry out the plan
   (a) Perform calculations.
   (b) Check each step, and make sure you don't forget the plan.
4. Look back
   (a) Find ways to test your final result (is your final result coherent with real life observations ?)
   (b) Can you think of new problems to explore (deeper questions for the same problem, other applications of the same method...) ?

Blocked ?

- Remember that the problem can be solved with the tools from the lecture and in a reasonable amount of time.
- Make sure you followed the guidelines.
- Can you think of a related problem you already solved ? How similar or different is it ?
- Make sure noone in the group has even a crazy idea.