



PHY208 – atoms and lasers

Problem solving

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Organization



Before Thursday: Register in team on Moodle

Thursday 10h15 – 12h15 / 13h15 – 15h15: Live tutorial on Zoom

0' : Open question enproblem ; split in groups

20' : Start working on the problem by yourselves, no help from the professors

20' : Possible discussion with the professors if need be

20' : General discussion

20' : Back to team work

30' : One group present their solution, discussion with the other groups



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In each session, one group has to prepare a report on the problem.

Sunday: Deadline for report submission on Moodle

Wednesday: Professors will upload revised reports + comments on Moodle



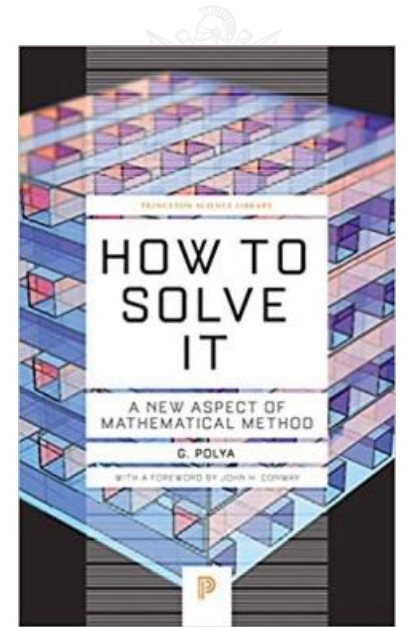
Four steps to solve a problem

Step 1 : Understand the problem

- ✓ Make a drawing
- ✓ Select a suitable model
- ✓ Introduce the corresponding quantities,
give them a name,
identify which are data and which are unknown.

Step 2 : Make a plan

- ✓ Write down the physics laws at stake
- ✓ Identify which parts of the lecture will be useful for the problem.
- ✓ Devise a path from the data to the unknowns



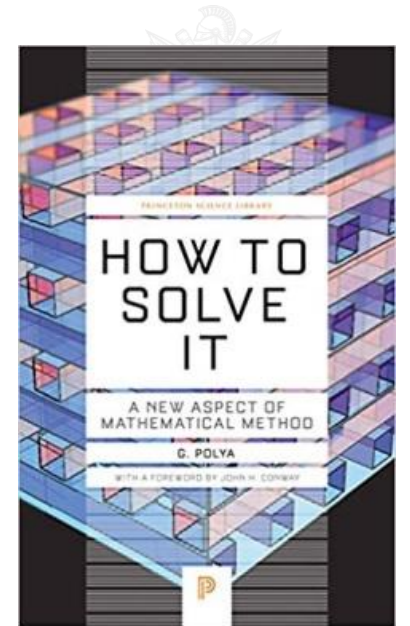
Four steps to solve a problem

Step 3 : Carry out the plan

- ✓ Perform calculations
- ✓ Check each step
- ✓ Make sure you don't forget the plan !

Step 4 : Look back !

- ✓ Find ways to test your final result
 - Comparison to real life observation ?
- ✓ New problems ?
 - Extension of the results or methods ?



Still 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 ?
- ✓ Remember you are supposed to work as a team –
make sure no one has even a crazy idea
they don't dare to say.

No internet !

