

# Interactive Math Notebook

Welcome to the **Math Problems** repository. This project is designated as a comprehensive template for your personal digital notebook, intended to serve you throughout the entire course.

This repository is bilingual (English/Polish) and structured to facilitate the creation of a personalized knowledge base via the Fork & Clone method.

## Workflow and Methodology

To utilize this material effectively, follow the standard procedure:

1. **Fork this Repository:**
  - Navigate to the source repository: [https://github.com/dchorazkiewicz/Physics\\_Problems\\_Repo](https://github.com/dchorazkiewicz/Physics_Problems_Repo)
  - Create your private copy using the **Fork** feature on GitHub.
2. **Clone Locally:** Download the repository to your local machine.
3. **Document Solutions:**
  - Navigate through the problem lists (e.g., Algebra, Analysis).
  - For every problem file (e.g., `01_vectors.md`), a corresponding empty directory has been provisioned (e.g., `solution_01_vectors/`).
  - These directories are your **workspaces**. Create Markdown files within them to store your solutions, proofs, and theoretical notes.
4. **Version Control:** Regularly commit and push your work to your GitHub repository to ensure data persistence.

## The Role of Notes in Exam Preparation

It is crucial to understand the distinction between the learning phase and the verification phase:

- **The Final Exam:** The exam is **written, in-class, and conducted entirely offline**. You will not have access to computers, smartphones, or AI tools during the assessment.
- **The Notebook's Purpose:** The extensive notes you prepare here are your primary study material. You must create them, read them, and understand them deeply *now*, so you can reproduce the logic *later* without technological assistance.

## Leveraging AI for Personalized Learning

We strongly encourage the use of AI tools (ChatGPT, Claude, Gemini) during the semester to prepare your materials. AI allows for the creation of **personalized notes** tailored to your specific needs:

- **Adaptability:** A standard textbook definition might be unclear to you. You can ask AI to “explain this step-by-step” or “provide a geometric intuition,” creating a note that matches your learning style.
- **Efficiency:** Do not copy content from the rendered HTML page. Instead, copy the raw Markdown code from the repository into the AI prompt to preserve mathematical formatting.
- **Goal:** The objective is to generate a professional, comprehensive note that serves as a self-study resource.

## Classroom Expectations and Student Responsibility

All problem lists are available from the first day of the semester. This allows for advanced preparation.

- **Zero Excuses Policy:** Given the availability of GenAI tools, claiming “I didn’t know how to start” or “I couldn’t solve it” is not an acceptable justification. A basic solution can be generated in seconds, even on a mobile device while commuting.
- **Focus on Discussion:** Class time is dedicated to discussing solutions, analyzing difficulties, and clarifying doubts—not for solving problems from scratch. You are expected to arrive with prepared materials.
- **Conscientiousness:** Building this repository is an exercise in professional responsibility and managing your work environment.

## For Tech Enthusiasts: GitHub Pages Deployment (Optional)

Students interested in technology may choose to publish their notes as a website using GitHub Pages.

- Use the `mkdocs gh-deploy` command to build and host your notes.
  - **Disclaimer:** This is completely optional and does not affect your grade. It is intended solely for self-development.
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## Available Topics

- **Algebra:** Matrices, determinants, systems of equations.
- **Geometry:** Vectors, lines, and planes.
- **Analysis:** Limits, derivatives, integrals.
- **Probabilistic Methods:** Probability theory and statistics.

*Select a topic from the menu to begin.*