

Board Meeting & Lab Quiz Makeup Assignment

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1. Search for Physics Controversies

Listen carefully to the discussion for Board Meeting Gamma, and **take notes**. Look for **points on which there was disagreement**. These could be points where one group had a different answer and then quickly realized they'd made a mistake. Even better is points where there was a big debate between different people in the class that took a while to resolve.

2. Understand Both Sides

In most of these controversies, there will turn out to be a correct understanding and an incorrect understanding: your goal is to wrap your mind around **BOTH**—not just the one that turns out to be right. Every wrong answer has a **reason** behind it. Try to understand that reason. Try to see **why** someone would think that wrong answer was the right answer.

In some cases, there may turn out to be two equally correct ways of doing or thinking about a problem. In this case, your goal is to understand why they **SEEM** different—and **then** to understand why they turn out to be the same.

3. Choose Two Controversies

Choose **two** controversies in which you **originally** had the **incorrect** understanding. At least one of these two should be from the board meeting discussion, but you may also choose one controversy that you've run into in lecture or while working on homework or a lab report: any point on which there are two understandings that both **seem** right for different reasons is acceptable.

4. The Write-Up: Explain Both Sides

On paper, as clearly as possible, describe each of the controversies you chose. You must include...

- i. A clear explanation of both sides of the controversy. Try to **fully convince** the reader of one side. Then try to **fully convince** the reader of the other side. Your explanation must be written in complete sentences and may also include equations, diagrams, etc.
- ii. An example of a specific physics scenario/problem where the controversy comes up. You must give a clear description of the physics scenario/problem, with relevant numbers. You are **welcome & encouraged** to use a problem from one of the homeworks, exams, practice exams, labs or post-labs—but please do **not** use a problem from BM Gamma.
- iii. A clear solution to the problem based on one understanding, including diagrams, equations, etc.
- iv. A clear solution to the problem based on the other understanding, including diagrams, equations, etc.

All written explanations must be typed.

Equations and diagrams may be typed or hand-written.