Physics 002B In Search of Quantum Reality 1st-Year Seminar
Assignment #4 Tuesday September 22, 2009

Seminar Topic: Mathematics
Do Not Panic!!!!!
We have no intention of becoming experts in the mathematics we will be discussing. We need to know these ideas, properties and rules. Everyone will understand this stuff during seminar.

Seminar Break: _____
Readings: Boccio ---- 03_Mathematics_1(pp 20-39)(URL in email)
04_Mathematics_2(URL in email)
05_Calculus(URL in email)
Seminar will consist of:
(1) Presentations by students
(2) Mini-Lectures by instructor to help with understanding of more difficult ideas as they arise during the seminar

Each student should become an **expert** in their own part of the readings so that their presentation(10 minutes using a Document camera) can be both **informative and interesting. Everyone** should do **ALL** the readings so everyone can **assume** that other seminar participants have at least read the material they will be presenting, even though they may not have fully understood it and/or put it into a general context. The **goal** of each seminar is that everyone **fully understand** all then readings for each week, including all of the **implications and ramifications.**

Presentations: Professor will help out with mathematics.....
Boccio
03_Mathematics_1
Pages 20-22 More Complex Numbers _____ and _Professor__
Pages 22-31 Complex Plane _____ and _Professor__
Pages 31-32 Series _____ and _Professor__
Pages 33-39 Vectors _____ and _Professor__
04_Mathematics_2
Pages 01-07 Dirac vectors _____ and _Professor_
Pages 07-08 Illustrate(Color/Hardness)_____ and _Professor_
Pages 08-12 Operators _____ and _Professor_
Pages 12-14 Projection Operators _____ and _Professor_
Pages 14-18 Matrices/Commutators _____ and _Professor_
Pages 18-30 Mathematical Techniques _____ and _Professor_
Just discuss ideas and illustrate by example
05_Calculus
Pages 01-09 Derivative _____ and _Professor__
Pages 09-15 Integral _____ and _Professor__