The motivation for this project is that there are a lot of cool interesting aspects of math that we won't get to in any class... but you can read about them! This is your opportunity to read about a mathematician or an area of math that you might not be exposed to otherwise.

A few possibilities include *The Signal and the Noise*, *The Code Book: The Science of Secrecy from Ancient Egypt to Quantum Cryptography*, *The Pea and the Sun: A Mathematical Paradox*, *Fermat's Enigma*, *Euclid in the Rainforest*, *A Mathematician's Apology*, *The Elegant Universe*, *Warped Passages*, *Big Bang: The Origin of the Universe*, *To Infinity and Beyond*, *The Broken Dice*, *The Equation that Couldn't be Solved: How Mathematical Genius Discovered the Language of Symmetry*, *The Road To Reality: A Complete Guide to the Laws of the Universe*, *The Man Who Loved Only Numbers*, *The Man Who Knew Infinity*, *The Liar Paradox and the Towers of Hanoi: The Ten Greatest Math Puzzles of All Time*, *Journey Through Genius*, *The Universe and the Teacup*, *Flatterland*, *The Irrationals: A Story of the Numbers You Can't Count On*, *e: The Story of a Number*, *An Imaginary Tale: The Story of "i"*, *Zero: The Biography of a Dangerous Idea*, or any book by Keith Devlin. I'd just browse through the QA section of the library ... or go to Amazon, select one of these, and then click on the other books that they then suggest to you.

> Be sure to pick something that interests you!

- **Do not choose a book you've already read** – although if you've only started the book and never gotten more than halfway through, that would be okay.

- If you begin a book and find that you are simply not finding it interesting, there may still be time to switch books – just come talk to me about it first.

- Many books – *Flatterland*, *The Elegant Universe*, for instance – start out at a pretty elementary level and get progressively more and more difficult. If you choose a book that is quite long, and after a significant amount of reading you find it getting to the point where you are no longer understanding it mathematically (or having to work very hard to understand it), bring the book for me to look at, and we'll discuss whether you should keep trying to finish it or whether you've read enough at that point.

Your final review should **not** be a summary of the book. Instead, you should give a critique of the book. Specifically:

- Begin with a brief one or two page overview of the book that gives the big picture (not just a list of topics).

- Address who you think the appropriate audience for the book is. Could any high school graduate read the book? Does it assume some college-level mathematical background? If so, be specific about what knowledge the author is assuming. Do you have to be an expert to enjoy the book?

- Discuss the mathematical content of the book: was it explained well? was it interesting? Did the exposition make you want to learn more about the area?

- Be sure to include a discussion of those aspects of the book which were done well, those tat were not, and (if applicable) give specific suggestions that would, in your view, improve the book.

- I have no hard-and-fast length requirements, but I imagine that in order to accomplish all of the above, the length will be at least four or five typed pages long.

Important Dates:

- **Friday, March 25:** e-mail me the title of the book you've chosen, and have read at least 1 chapter. Let me know how far you are, and include a very brief reaction to what you've read. (4% of your project score).

- **Friday, April 8**: you should have read an absolute minimum of 75 pages. Turn in a progress report – I'd like to know about how far you are in the book and how reading the book is going (please don't exaggerate. If you *haven't* read those 75 pages, and it's because the book is very dense mathematically, let me know that!) (6% of your project score.)

- **Friday, April 29:** final draft of your book critique. (90% of project score.)