

There are lots of good books and articles that discuss the connections between Math and Art, and many more on the mathematical topics we're covering in this class. Read some or all of such a book or article and write a report on the connections and mathematics you learned.

(Of course, the more you read and the more thoughtful what you write is (and the more understanding it reflects), the more points you will get.

Just a few suggestions:

1. *Math Trek* – this is a short weekly on-line article. On the course web-page, I have links to many different past articles relating to art. These are only a page, so doing your project just on one of these wouldn't be very substantive, but each article has a lot of links, and they may give you ideas. They're also just cool.
2. *Flatland: A Romance in Many Dimensions*, by Edwin Abbott
3. *Mathematical History of Division in Mean and Extreme Ratio*, by Roger Herz-Fischler
4. *The Golden Ratio*, by Mario Livio – a few chapters beyond Chapters 2, 3, and 9 which were a major source for this class.
5. *Beyond the third dimension : geometry, computer graphics, and higher dimensions*, by Thomas Banchoff
6. *The Invention of Infinity: Mathematics and Art in the Renaissance*, by J. V. Field (I have the library's copy in my office)
7. *Symmetry in Chaos: A Search for Pattern in Mathematics, Art, and Nature*, by Field and Golubitsky
8. *M. C. Escher: Visions of Symmetry*, by Doris Schattschneider
9. *The Nexus Network Journal*, volumes 2, 3, 4 – these are books with articles on the connection between math and architecture

If you have an idea for something you'd like to read that's not on this list, just run it by me via e-mail or a chat after class one day.

*Possible points:* A report on a longish book (The Golden Ratio, Beyond the 3rd Dimension, The Invention of Infinity, for instance) that makes it clear to me that you did indeed read the whole thing and that thoughtfully discusses the math and the connections between math in art covered in the book can earn up to 50 points.

A report on a shorter book (Flatland, for instance) that again makes it clear to me that you did indeed read the whole thing and that again discusses the ideas (simply in the usual book report way) can earn up to 40 points. (There is a later project that asks you to specifically elaborate on the concept of life in 2 dimensions).

Articles or chapters from books can earn anywhere from 5-30 points, depending on their content and their length, and on your report. A single page web-article, like a Math Trek article, may only earn 5 or 10 points (but may still be worth reading, as some are really fun), an article from the Nexus Network journal could earn 10-30 points, and a chapter from a book could earn 10-20 points.