

Project 5: Flatland

Math 107, May 2012

After reading the Flatland book by Edwin Abbott, write a 3-6 page paper on the following. Your paper should be well-written and utilize proper grammar and well-developed paragraphs. Submit your essay by the **start of class, Monday, Nov. 14th**; please submit online through the Sakai site under Assignments.

If you utilize any outside sources, you should cite them appropriately. You do not have to cite our textbook, course notes, or *Flatland* unless you are directly quoting passages from one of these. Anti-plagiarism software may be employed.

Recommended Topic: Write an extra chapter to *Flatland*, in which you describe an activity or feature of the everyday life of Flatlanders. Fill in any details Abbott did not describe. Some examples you could consider (focus upon only one):

- What do offices look like? What kind of jobs, other than those explicitly mentioned, do Flatlanders perform?
- What do they do for fun? How do Flatlanders party?
- Do they play sports? (what kinds?)
- Do they listen to music? How is music produced?
- How do Flatlanders eat? What kinds of food might they eat? What do they drink? Wouldn't their digestive tract split them into two pieces?
- Describe in detail various transportation options in Flatland: what would cars look like? how would they be powered? trains? Could boats exist? Moving walkways? What, if anything, would be the analog of air travel?
- Describe earthquakes in Flatland. How do they occur? What damage do they cause?
- any other aspect of Flatland life of your choosing

Other possible topics. I prefer that you do the recommended topic for this assignment – it's fun for me to read. If you prefer, you could try one of these topics – but you *must have my approval in advance (by no later than Friday)*.

1. Reading *Flatland* should cause you to question whether there are more than 3 dimensions in the universe. How has your point of view changed? Discuss your conclusions in a well-reasoned essay.

2. Investigate one or two current theories which state that our universe contains more than 3 dimensions. Explain them while alluding to Flatland. (For a direct allusion, you could write about them from A. Square's perspective. More indirect approaches also work well.)
3. What if a cube rather than a sphere had visited Flatland; how would the story have changed? For a really strange hypothesis, what if a torus visited?
4. A. Square determines that Flatland may not be so flat after all; perhaps it's a sphere. Besides a sphere, consider other geometric shapes: a torus, a double torus, a hyperbolic saddle-like surface. How would the ending of the book be different if Flatland were actually one of these shapes?
5. Consider banks and safes in Flatland: they would be easy for a higher-dimensional being like yourself to rob. You could make objects mysteriously disappear, at least from a Flatlander's point of view. Now, consider some unexplainable events in human history. Could the existence of higher dimensions explain some of them? Use geometry to explain how. (for example, could purported but unsubstantiated alien sightings be attributed to the aliens understanding how to move in dimensions that we earthlings cannot?)
6. Reimagine a Flatland with equal rights for women; describe in detail what would change about family life and working life.
7. A law in Flatland was passed outlawing colors. Compare and contrast this with either a historical or modern legal situation of your choosing.
8. Write an extra chapter of the book from the point of view of a Linelander encountering A. Square.

Or, think of a topic on your own. Remember that you must have my approval do a different topic.