

Name: \_\_\_\_\_

The goals of this project are:

1. To learn how to determine what resources a book has to offer without reading the whole book
2. To observe different mathematical writing styles and pedagogical approaches by comparing the geometry texts selected for this course
3. To become familiar with the resources in the texts we will be using in the course

For this project, you will need to bring your copy of Stillwell's *Four Pillars of Geometry* with you to the library, where the two geometry textbooks (Cederberg's *A Course in Modern Geometries* and Hartshorne's *Geometry: Euclid and Beyond*) that we will be using as supplementary texts are available on reserve. You will compare the three books and answer some questions about them.

This worksheet is due at the beginning of class Monday Jan 9.

1. Besides the main body of the text (the chapters), list the supplementary material provided, (e.g. table of contents, index, appendices, etc.) in each book.

2. Peruse the table of contents of each book.

- (a) Write down three topics that all three books cover, and state where each topic can be found in each book.

(b) Write down three topics that *not* all three books cover and where each topic can be found.

(c) Write down two topics that look familiar to you from your previous mathematics education (e.g. high school geometry, linear algebra) and where each topic can be found.

(d) Write down three topics that are *not* familiar to you and where each topic can be found.

3. Peruse the index of each book.

(a) Find the names of three mathematicians, and briefly describe the context in which the text mentions them, along with the citation.

(b) Write down three things that you found in the indices that made you wonder what they are, and give page references.



5. After having perused the table of contents, the index, and the preface/introduction of each book, and after having read some sample material from the chapters, you should have a good idea of what is in each of the books. To answer the following questions, you will need to look again at what you've perused and read some parts carefully.

(a) What is Euclid's *Elements*?

(b) Compare and contrast the three authors' opinions about the role that Euclid's *Elements* should play in an undergraduate geometry course today.

(c) What are the "four pillars" of geometry Stillwell refers to in his title?

(d) What are some of the topics that Cederberg suggests for student projects or for independent study?

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