Biography/History Project
Math 4513, Fall 2004

The biography project for this class will consist of two components:

(1) An Annotated Bibliography to be turned in on Monday, November 1.

(2) A Biography Paper due by Monday, November 15.

In addition, you may use your biography as a basis for your Oral Presentation in class (sometime on or after November 12). Here are some descriptions concerning what the project should include.

I. Annotated Bibliography

The annotated bibliography should be a list of references that you will use in your paper, together with a thorough outline of the relevant material in each of these references. Among your references you must include each of the following:

1. At least two references from expository mathematical/scientific journals such as *The Mathematical Intelligencer*, *Mathematics Magazine*, *The American Mathematical Monthly*, *The Mathematical Gazette*, *Historia Mathematica* or *Scientific American*, or similar journals. These journals can be found in the Chem/Math library on the second floor of PHSC, or in the stacks at the Bizzell Library (e.g.- *Mathematical Gazette*), or in the History of Science Library (e.g.- *Historia Mathematica*).

2. At least two textual sources on the history of mathematics including at least one located in the History of Science holdings in Bizzell. For some of you, *Men of Mathematics* by E.T.Bell may have relevant information. Its in the History of Science holdings. The call number for this book is 'QA 28 .B4 1965', if you look around in this location in the Chem/Math library you should find other historical references nearby. Or try *An Introduction to the History of Mathematics* by Howard Eves, or *Mathematics and its History* by John Stillwell.

3. At least three unrelated references to web sites that have historical information on the subject of your biography. Include the St. Andrews web site as one of these, and be certain to use the list of references included there as a basis for your bibliography.

II. Biography Paper

The paper should include each of the following:

1. A complete biographical sketch of the subject.

2. A discussion of the mathematical environment(s) in which the subject worked. This should include relevant information such as: the nature of interactions with significant mentors, students, collaborators and/or rivals; any direct connections to Euler, Gauss or Riemann; general information about the academic environment in which the subject worked.

3. What role did the biographical subject play in the development of the Riemann Hypothesis? Address any of the index references to the subject in Derbyshire's book, and the role played in the RH.

4. A thorough statement (including all contingent mathematical definitions) of a mathematical result that is particularly associated with the subject. Include some examples which put the result into context (but you need not examine a complete proof of the result).