Formal Paper #1: Write Your Own Chapter of *The Man Who Counted*

For your first paper you will write a new chapter for *The Man Who Counted*. This assignment is designed to help you explore the role of problem solving in the history of mathematics. You will also gain insight into the culture of Islam and the Middle East in the thirteenth century. At the same time, you will be introduced to several famous mathematicians, their lives and their work.

1. Effective reading.
   a. Date
      The entire book must be read by class 6 (September 8). Notes from your reading will be checked. See part 6 below for specifications for taking notes while reading.
   b. Problem Solving
      Each chapter in *The Man Who Counted* presents a problem to solve. Pay careful attention to the presentations and solutions for the problems in the book. You will need to present and solve a problem in a similar format.
   c. Style of the book
      Take careful note of the style of each chapter. Your paper will need to reflect this same style.
   d. Notes on the cultural and mathematical content
      As you read the book, use the chart in part 6 below to record the page numbers where each topic can be found. Once you have completed the book, write your own notes about each topic. We will study several of the people and topics from this book throughout the course.

2. Problem Solving.
   During Classes 1, 2 and 3 we will work in groups to discover techniques for effectively solving problems. You will then incorporate the presentation and solution of one problem in your chapter.

3. Research on the Islamic culture in medieval times.
   You are required to do some research on the Islamic Empire. This will help you embellish your chapter with appropriate characteristics of the times.

4. Your Chapter of *The Man Who Counted*
   a. Your Problem
      Your chapter must include the presentation and solution of a problem *from a specific list of problems provided for this paper*. (See separate handout.)
   b. Cultural details
      Include specific details about the Islamic culture consistent with the time, place and culture of the story.
c. An ancient or medieval mathematician
   Incorporate at least one mathematician into your story. You may use any
   of the mathematicians mentioned in the book, a mathematician we have
   studied in class, or a mathematician found in any history of mathematics
   book who lived before the time of the book. Some examples of
   appropriate mathematicians are Omar Khayyam, al-Khowârizmî,
   Archimedes, and Heron.
   i. Your information about this mathematician must be accurate.
   ii. Beremiz may not personally meet this mathematician unless they
       lived at the same time.
   iii. Include the time, location, some personal information, and have the
       characters in your chapter make direct reference to the
       mathematical work your mathematician is famous for.

d. Writing style
   Since your paper is to be a chapter in The Man Who Counted, be sure your
   style of writing is consistent with the book. Refer to the book for phrasing
   and format.
   i. Include introductory comments for your chapter consistent with
      those in the book. Use italics to set these apart from the heart of
      your chapter.
   ii. Do not use modern speech idioms or slang since these were not
       known in the thirteenth century.

5. The mechanics
   a. Your paper must include a title page.
   b. Your paper must be double spaced.
   c. You must indicate where your chapter falls in the book. Give your paper a
      chapter number.
   d. Your paper should generally be three to five pages in length.
   e. Your paper must be typed on a word processor. Be sure to check for
      spelling errors.
   f. Your paper must include a bibliography. Include the Man Who Counted,
      the source book for your mathematician, and your sources for Islamic
      culture.
   g. Your paper need not contain quotes or footnotes.
   h. Bring 2 separate copies of your paper to Class 10 (September 17) for
      peer review. There is a 10% penalty to your paper grade if this
      requirement is not met.
   i. Individual writing conferences with the instructor will be held the week of
      9/15.
   j. Turn in 2 copies of your improved "final draft" paper on Class 15
      (September 29).
Sample A, B, and C papers are available in the Math 109 Solutions Folder in the Math Center, Smyth 362.

For additional help with your paper visit the Writing Center, 110 Carroll Hall West, ext. 2647. Call several days in advance for an appointment.

6. Topics for book notes (see 1 d.).
The Man Who Counted introduces the reader to many interesting tidbits in the history of mathematics. As you read the book, write down the page number(s) where each of the following topics is discussed. Once you have completed the book, use these page number references as you write your own notes on each topic.

You should also make brief notes about the characters, settings and story line in each chapter as you read so that your chapter fits in accurately with the rest of the book. You do not need to take notes on each problem solved in the story.

These notes will be due at Class 6 (September 8). Notes typically consist of 3-4 pages of handwritten notes.

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<tr>
<th>Topic</th>
<th>Reference Pages</th>
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<td>al- Khowârizmi</td>
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<td>Archimedes</td>
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