# Historical "Proof" Explication

- Read the given argument, proof, or theorem and proof combination. I have photocopied them from an original historical document, or faithful English translation. The assignment is designed to be more-or-less self-contained.

- **Explicate this result**, that is, to write an expository version. Your version will usually therefore be longer than the original. Remember that **a "proof" is a narrative**, telling the story of (proving) why the theorem is true. Your job is to make that story transparent.

- **Stay as close as possible to the style and form of the argument**, preserving the historical flavor and ideas of the author. Do not substitute a faster, modern statement and proof.

- You will be graded on the **clarity** of your exposition.

- You will also be graded on **how critically you have read the result**, whether you found all the confusions, omitted arguments, and so on, even if you were not able to settle all of them to your satisfaction.

- Your work may require any or all of the following:

  - **Clarify** words, definitions, and statements. For instance, "line" may be used where "line segment" is meant, "equation" confused with "expression", or "equal" with "congruent" or "equivalent"; the same letters or words may be used for several different objects; out-of-date terminology and phrasing may need to be updated, or just made more precise.

  - **Is the result properly stated** as a Theorem, Proposition, Lemma, Corollary, etc.? Is the Proof so named, and clearly delineated?

  - **Add as many pictures as you like** to clarify the argument. These include "idea" pictures, as well as the usual graphs, diagrams, constructions, etc. A detailed "movie" of images is often needed.

  - **Include omitted arguments, or other details**. Some arguments may be long enough to be stated (by you) separately as a Lemma. Do so, if you like. Other arguments may be assumed common knowledge by the author, but not clear to you or your modern readers. Tell us. This is vital to good exposition.

  - **Correct any mathematical errors or omissions** you may find. For example, if a variable suddenly appears in a denominator, did the author consider the case when that variable might be zero? Are there other omissions of cases we would today include? Are there typographic errors? Are the calculations really correct? Take nothing for granted.

  - Modernize the mathematical notation if needed, but again, stay close to the history.