Math Fables	**MA 274**	**Fall 2018**

Task: Write a short story encapsulating the ideas underlying one of the proofs we have studied so far this semester. You may wish to present your story in the style of a fable or folk tale, but there are other possibilities. The premier example of this is the classic "Hilbert's Hotel," which we'll discuss at the end of the semester, but you may read about it on the internet now, if you wish. Obviously, you can't use that (or a version of it) for your story.

Purpose: The ability to creatively communicate mathematics to a wide audience is a key attribute of a liberal arts college mathematics graduate. Although technical subjects are often communicated in a straightforward no-nonsense fashion, it is possible to communicate in other ways. This assignment will help you expand your ability to communicate mathematics and will also help you more deeply understand one of the proofs we've discussed from a technical perspective.

Requirements: The story should be 1 – 3 pages long (not including figures or pictures), should be typed in LaTeX, and should include a bibliography of works cited or consulted and conversations you've had with others (e.g. classmate or writing center) about your story. The bibliography is your chance to give credit to people who have provided you with good (or bad!) ideas. It need not be long and you are not required to make use of any sources other than your textbook. Failing to give credit to a source you've relied on may result in a report of academic dishonesty.

Your story must be clearly related to one of the proofs we covered in class, in the reading, or on homework. It must have a beginning, middle, and end and it must capture the essence of the proof. Although, creativity and excellence of story-telling ability is a plus, you are not required to write great literature. Some suggestions for how to approach this assignment are below. You should not, however, write a story about someone presenting the proof – the proof itself needs to be the story.

Grading Rubric: The assignment will be graded on:
(50%) adherence to the instructions above,
(25%) your ability to capture the essence of the proof in narrative form,
(15%) the clarity of your writing, and the
(10%) creativity of your story.

Due Dates:
Topic choice. Email me which proof you'll be basing it on by **Friday, October 26**.
Draft (optional). Send it to me over email or by print by **Monday, November 12.**
Final draft: By email *and* print copy in class on **Monday, November 19.**

Suggestions: I'd recommend that you stay away from a proof involving a lot of algebraic manipulation – that will be hard to make a story out of. Choose a proof you understand reasonably well and think about what kind of proof it is (direct proof, proof by contradiction, induction, etc.) If it is a direct proof your story may best be written using a direct approach. If it is a proof by contradiction, you may wish it to start in some sort of outlandish way. If it is a proof by induction, you may wish it to have some sort of repetitive structure. Think up some metaphor which could describe the mathematical situation. For example, if your proof concerns permutations, you may wish to discuss dancers changing places on stage. Where does your story take place? In a forest, in town, in space? Who are the characters? Where does the conflict come from? How is it resolved?

As mentioned above, you should not expect to write a marvelous story. It is likely it will have a didactic feel to it and possibly feel a bit contrived. That's okay!