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To: Julie L. Sigall
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Comment:

I have loved geometry ever since I took my first geometry class in high school. In particular, I've been fascinated with the Pythagorean Theorem, which states that given a triangle, the sum of the squares of the length of the two shorter sides is equal to the square of the length of the longest side. It's commonly written $a^2 + b^2 = c^2$, which most people know. What most people do not know is that there are over 300 proofs of this simple theorem, and that mathematics professor Elisha Scott Loomis compiled an amazing book of all known proofs earlier in the last century. I'm lucky enough to own a copy of his work, which is titled "The Pythagorean Proposition." The book is really amazing, with each proof succinctly explained and accompanied by a meticulously hand-drawn diagram. It is very comprehensive, listing all proofs from the most obscure to a geometric proof devised by former U.S. president James Garfield.

Ever since I've gotten my hands on the book 5 years or so ago, I've wanted to digitize it so that it would be available online for all interested in it. Initially, I'd like to simply scan it and upload it to my website so that it will be available online, but I would eventually like to recreate it in a digital format and update it with all the new proofs discovered in the following 50 years or so since the author passed away. My reasons are numerous: the book is, again, amazing, with each proof's origins documented, and captures well the evolution in the understanding of this theorem. There are a few new proofs discovered recently as well, and I wish to carry on Dr. Loomis' work. It pains me to see this book and the knowledge within become harder to access as copies are rare: I got my copy off eBay in a bidding war, and I haven't seen a copy available there since. In just a century, computers have made it possible to digitize this and preserve it for perpetuity. Since making it available online is not permissible by copyright despite the fact that the technological means to do so exist, I hope that the copyright system can be updated to allow people like me to make this books like this available online. As with most other orphan works, this book arguably only serves a small niche of math enthusiasts and is likely to be of negligible economic value at this point, if anyone alive even owns the copyright. What is most frustrating to me is that this book, which is a product of one mathematician's love for the theorem, should be available to others who also appreciate the theorem: each hand drawn diagram makes me think how the tedium was bearable only since it was a labor of love, done with the understanding that such a work would be of value to the mathematics community. Such a work should be available to those who wish to study and learn from it.

In my initial efforts, I've theoretically figured out how to overcome the technological barrier of storing the text and graphics in an easily manageable, extensible digital format. Copyright issues, however, are not so easily dealt with. I initially contacted the National Council of Teachers of Mathematics (NCTM), which republished the second edition in 1968 (the second edition was originally published in 1940), but understandably they did not have records from that long ago. I only know that Elisha Scott Loomis' son, Elatus G. Loomis, renewed the copyright (according to <http://www.scils.rutgers.edu/~lesk/copyrenew.html>). I don't really have the financial resources to attempt to track down his descendants, as Loomis is a common name and I can't afford to pay for many genealogy records in a blanket attempt to start my search somewhere (I am a sophomore university student with

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plenty debt already in the form of student loans; I'm majoring in environmental engineering). I am aware that math can't be copyrighted, but Dr. Loomis' research into the origins of the proofs and his particularly efficient way for explaining/describing each proof in a minimum of words/equations is excellent, and it is my understanding that these particular expressions would be covered by copyright.

Thank you for reconsidering the issue of orphan works, and I hope any decision made will be in favor of allowing books such as this to be available to all those who wish for it.