

*Lie Sphere Transformations*

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 Advisor: Thomas Cecil, College of the Holy Cross

*Nimber Sequences with no Preperiod for**Three-Element Subtraction Sets*

Brittany C. Shelton, Montclair State University  
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*A Newton Polyhedron Method for Explicit Calculation of the Igusa  
Local Zeta Function Associated with a Degenerate Polynomial*

Adrienne B. Rau, Barnard College, Columbia University  
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*In Search of an 8: Rank Computations  
on a Family of Quartic Curves*

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## Girls Just Want to Have Sums

*Sarah J. Greenwald, Appalachian State University*

*The Simpsons* is the longest-running sitcom of all time, and it is also one of the most literate television programs on the air, containing many references to subject matter and scholars from various academic fields, including mathematics. Andrew Nestler and I have found that the program is an ideal source of fun ways to introduce important mathematical concepts to students and to reduce math anxiety and motivate students in courses for non-majors. Our website contains information about mathematics in the show and our use of it in mathematics classrooms, and on August 25, 2005, we were thrilled to have the opportunity to speak with Jeff Westbrook, one of the writers of the show. Jeff has a bachelor's degree in physics and the history of science from Harvard University and a Ph.D. in computer science from Princeton University. Jeff was an associate professor at Yale University and also worked at AT&T Labs before writing for the animated sitcom *Futurama*, and he has been writing for *The Simpsons* since 2004. An edited transcript of the portion of our conversation related to women in mathematics in episodes of *The Simpsons* follows.

**Sarah:** You mentioned that the “galgebra” joke is yours. How did that come about?

**Lisa is examining a Yale Course Catalogue:** *It's so great that Yale has finally forbidden man from taking*

*science. Now let's see...Should I major in “femistry” or “galgebra”? [The Simpsons GABF12: Future-Drama]*

**Jeff:** It was for the *Future-Drama* episode where Lisa was going to Yale and we were talking about what Yale was going to be like in the future, and the whole women in math thing was at the top of our brains at that point.

**Sarah:** Around the Lawrence Summers time?

**Jeff:** Yes, exactly.... So we were thinking, “Well boys won't be in math anymore and they'll be teaching ‘femistry’ and ‘galgebra’ and all that kind of stuff...”

**Sarah:** I really like that joke. You mentioned that there might be a Lawrence Summer's related episode?

**Jeff:** There is. We already had that table read. That was a very difficult episode in some ways, because we wanted to deal with it, but we didn't want to toe any ideologically obvious line either way, so it was hard to come to a satisfying end, but we probably came to an interesting place, I hope. Lisa does a lot of math in that. There certainly were one or two pretty simple math things, because she is after all in second grade. I don't think we did anything really complicated.

**Sarah:** She's smart, but....

**Jeff:** Stu Burns [another writer on *The Simpsons*, who has a master's degree in mathematics from UC Berkeley] and I wanted to try and shoehorn in the Euler Königsberg bridge tour problem. So Stu and I spent about a half an hour trying to get that into a simple joke, but didn't manage.



Jeff Westbrook and Sarah Greenwald

**Sarah:** Oh.... Sorry to hear that.

**Jeff:** Oh don't give up.... We will keep fighting for that somehow or other.

**Sarah:** Cool!

**Jeff:** So there is that coming up. We have an evolution episode coming up too.

**Sarah:** When might these appear?

**Jeff:** These are all season 17, so they'll be appearing probably next spring, I would guess. Stuart wrote the evolution episode. That was really a lot easier to write, to be quite honest. It was much easier to take the correct ideological position on that than the women in math stuff.

A few months later, Jeff showed us portions of a preliminary "animatic," pictures of a storyboard synchronized with the soundtrack, from the upcoming women and mathematics episode that he mentioned in the interview. The amusing animatic revealed separate girls and boys mathematics

classroom environments. Lisa Simpson, who has always been portrayed as intelligent and good at mathematics and science in addition to other subjects, wanted to work on problems instead of embracing the cooperative learning environment found in the girls' class, and so she peered into the boys' classroom window to work on the boys' problems from there. Regardless of the final product, this episode is sure to be a great opportunity for continued discussion about women in mathematics, and a chance to expose a large viewing public to some of the related issues. The title of the episode parodies the title of Cyndi Lauper's song *Girls Just Want to Have Fun*. Look for *The Simpsons* episode *Girls Just Want to Have Sums* to air in the Spring or Fall of 2006.

### Acknowledgements

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Available: <http://www.mathsci.appstate.edu/~sjg/futurama/jeffwestbrookinterview.html>

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