

Math lecture no sleep session for R.J. Grey students

By **Janice M. Ward**/ Special to the Beacon
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Can you imagine a Standing Room Only math lecture? On Wednesday, November 11, Professor Ed Burger gave an SRO *Magic with Mathematics* performance for more than 500 people at the R.J. Grey Junior High auditorium.



Parents and Students encircle Dr. Burger (holding rings) at the PIP Magic with Mathematics Event at RJ Grey JHS.
Photo Courtesy of Chris Stockman

Sponsored by the Acton Parent Involvement Project (PIP) and billed as “for those who *never* thought they would attend a math lecture,” Professor Burger entertained the audience with his unique brand of math magic and humor. This community-wide event was Acton PIP’s first foray into programming geared to families of older students.

Burger, chairman of Mathematics at Williams College, math magician, and former comedy writer for Jay Leno, warmed up the audience with a math spoof video to Jimmy Buffet lyrics, then quickly asked for recruits for his magic/math/comedy routine. Interspersing math facts with magic tricks, Dr. Burger demonstrated how to guess the number of pennies in a person’s pocket. Hint: If you subtract the sum of the digits from any 2-digit number, you get a multiple of nine.

Grabbing audience attention with current events, Dr. Burger showed how to help your favorite candidate win an election. Placing pictures of nine candidates on an overhead projector, Dr. Burger held a mock election with the audience. Through a judicious math-based system of elimination, everyone picked Dr. Burger for president!

Dr. Burger then wowed the audience with card, rope, and knot tricks, always sneaking in math concepts like topology. He shifted gears to tell a story about a realtor who tried to sell him a house that lacked an important element, a bathroom. Using the overhead projector, Dr. Burger displayed a translucent picture of his house and its rooms, which looked like a jigsaw puzzle drawn by a first grader. According to Dr. Burger, the realtor tried to “close the deal” by convincing him he could add a bathroom without building an addition. Dr. Burger was perplexed because he knew that moving the rooms would not increase their area; it’s a math principle called “translation invariance.” Juggling the puzzle pieces, Dr. Burger revealed the same house with the same number of rooms plus the addition of a bathroom. He quizzed the audience. “Aren’t there any dishonest people here?” he asked. “How did the realtor gain space for a bathroom?” By moving the puzzle pieces on top of the thick walls of the house, the realtor used the space within the walls.

At the end of his performance, Dr. Burger demonstrated a magic trick involving six cards. Each card contained numbers from 1 to 63. Dr. Burger recruited R.J. Grey Jr. High student, Sage Lowe, to come onstage and pick a number. She handed him the cards that contained her number and he guessed it. After the lecture ended, he handed out copies of the cards, so students could amaze their friends.

The real magic in Dr. Burger’s show was his ability to entertain while surreptitiously teaching math. Dr. Burger summed it up by telling the audience, “There are many similarities between magic and mathematics: both appear mysterious and have surprising outcomes. But the greatest similarity is the intellectual excitement in discovering their secrets. Uncovering the many secrets of mathematics is both an artistic and creative endeavor—one that I hope everyone will continue to pursue.”

Dr. Burger’s exhilarating *Magic with Mathematics* performance was sponsored by Acton PIP. Acton PIP is a group of parents, educators, and community partners working together to offer math and science enrichment activities for students and their families. Formerly grant funded through the Mass. Dept. of Education and National Science Foundation, PIP relies on community donations and volunteers to continue to offer math and science enrichment events. To learn more about PIP, to volunteer, or to be added to the PIP e-loop, please email actonpip@yahoo.com or contact PIP Chairperson Karen Herther at 978-263-6742 or visit the PIP Web site at <http://douglas.ab.mec.edu/pip>.