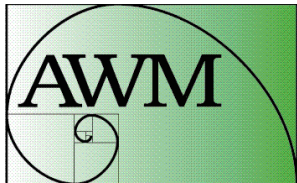


## STEP 3: Association for Women in Mathematics (AWM)

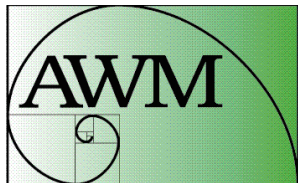
- Nonprofit organization dedicated to encouraging and promoting women and girls in the mathematical sciences.
- ~12% of membership is male
- <http://awm-math.org/>



ASSOCIATION FOR  
WOMEN IN MATHEMATICS



# Association for Women in Mathematics Essay Contest!



ASSOCIATION FOR  
WOMEN IN MATHEMATICS



*Dr. Mahlet Tadesse: A Mathematician's Quest from Ethiopia to the United States*

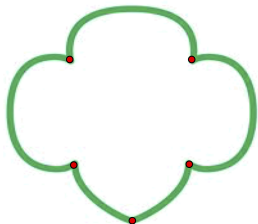
by high school student Christina Bax

- An interview with a woman currently working in a mathematical sciences career. Grades 6-8, Grades 9-12, and College Undergraduate.
- Can request to get matched with someone. Due by January 31.

# How I have used Math in my Career: The Beginning



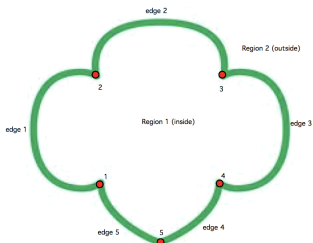
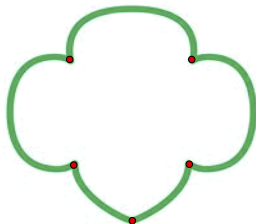
- My mom told me: try things at least once, work hard
- Math is where you learn why & why not!
- Count on my fingers  
Dots - Lines/Curves + Regions.  
[Don't forget to count the outside]



# How I have used Math in my Career: The Beginning

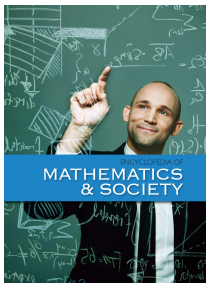


- My mom told me: try things at least once, work hard
- Math is where you learn why & why not!
- Count on my fingers  
Dots - Lines/Curves + Regions.  
[Don't forget to count the outside]



# Mathematical Editing

- Get to help others with their writing and put together a creative work



## Newsletter

VOLUME 40, NO. 1 • JANUARY-FEBRUARY 2010

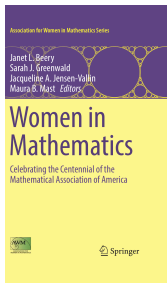
### PRESIDENT'S REPORT

The January–February *AWM Newsletter* is dedicated to the memory of Alice Turner Schaefer, one of the founders of AWM and its second president, who died September 27, 2009 at the age of 94.

As early as her high school years, Alice Turner demonstrated a deep love of mathematics and teaching. She then attended the University of Richmond, where back in the early 1930s, the men's and women's colleges stood on opposite sides of Woorhampton Lake, and women were not allowed in the campus library. Female students had never enrolled in advanced mathematics classes there until a dean advised Alice to "take mathematics courses on the boys' side of the lake." No one could have predicted

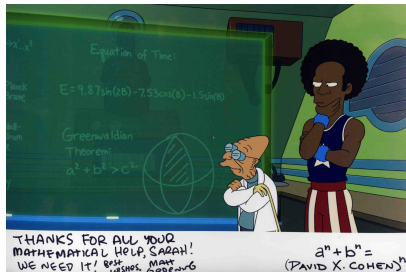
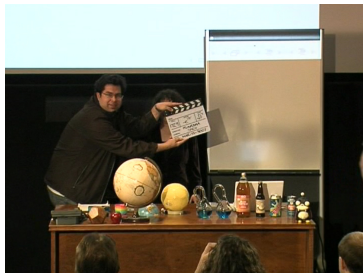


Alice Turner Schaefer



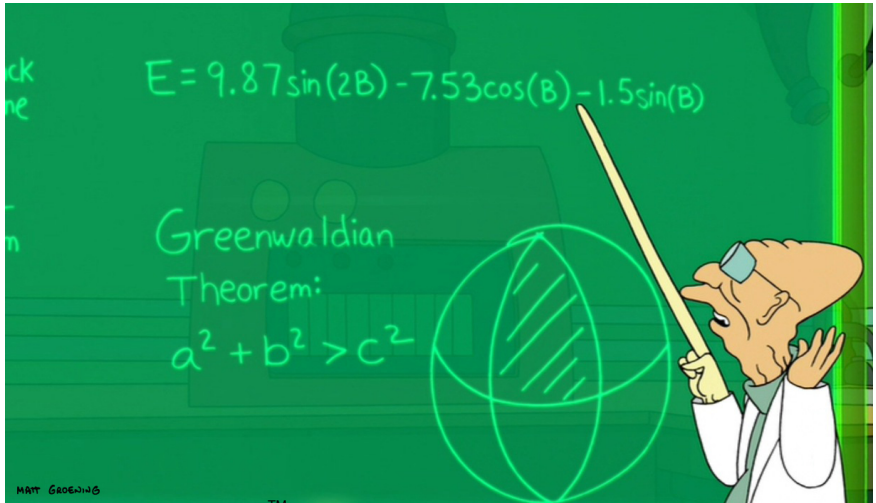
# Consulting for Movies

- *Flatland: The Movie*
- *Futurama*
- Erdős-Bacon documentary



*Futurama*™ and © Twentieth Century Fox Film Corporation.

# My Own Geometry Theorem in the Movies



Futurama™ and © Twentieth Century Fox Film Corporation.



# What do you Enjoy?

**Qa** “What can I do with a math degree?”

Qualify for a broad range of careers in business, industry, government, and teaching.

stockbroker  
research scientist

public utilities analyst

foreign exchange trader

urban designer

population ecologist

estimator

cryptanalyst

epidemiologist

statistician

market research analyst

quantitative analyst

technical writer

teacher

commodities trader

air traffic controller

climate analyst

pollster

financial aid director

forensic analyst

production manager

appraiser

banker

underwriter

actuary

computer programmer

claims adjuster

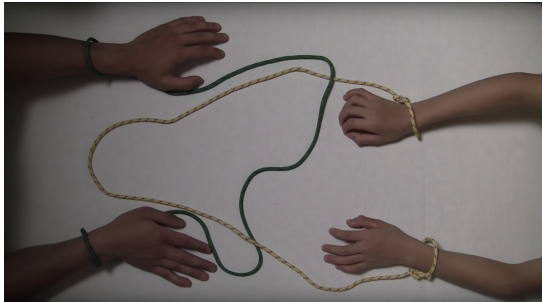
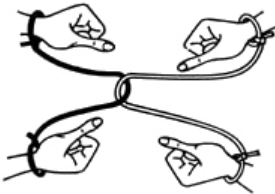
benefits administrator

professor

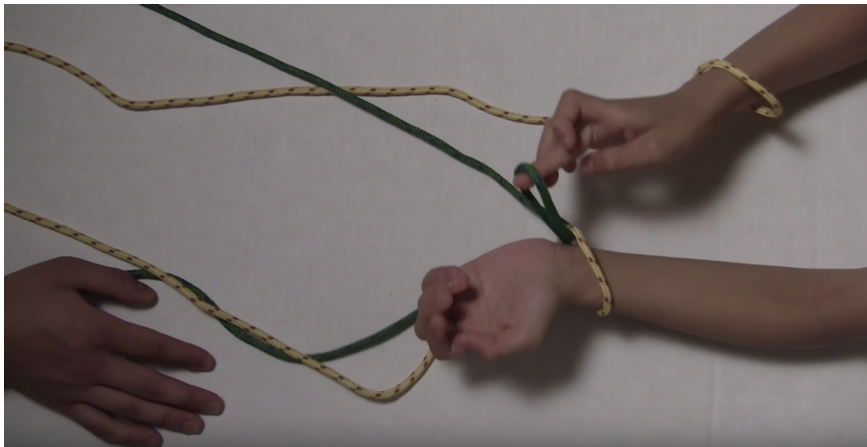


## Mathcuffed Puzzle: Is math binding or freeing?

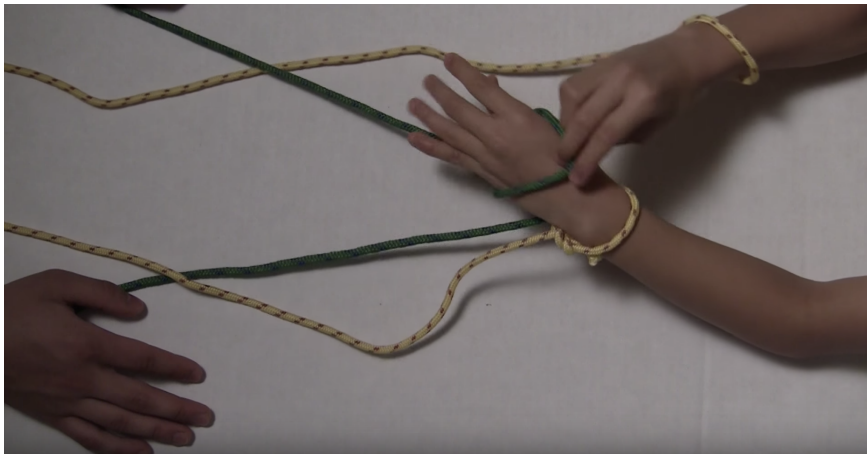
- Find a partner
- Put on your mathcuffs as shown in the following picture. They cannot be removed from your hands.
- Do not break, cut, saw through, bite through, untie knots or in any other way damage the rope.
- Can you get free from each other?



## Mathcuffed Puzzle: Is math binding or freeing?



## Mathcuffed Puzzle: Is math binding or freeing?

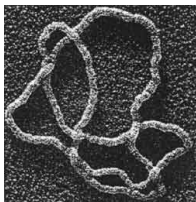


## Mathcuffed Puzzle: Is math binding or freeing?



## Research Perspectives: Mathematical Biology

- *Make the issue concrete and physical whenever possible.... Many surprising and even counterintuitive discoveries can be made by freeing ourselves from old, unsubstantiated biases and experimenting with new ways of thinking and seeing.*
- Equivalences in mathematics and molecular biology (topology, knot theory, and what kind of enzymatic reactions take place for mRNA strands)



# $\pi$ -athlon

complete 3+ activities  
and win a prize!

$$\pi = \frac{\text{Circumference}}{\text{Diameter}} = 3.14159265359\dots$$