

Volume 9, Issue 2

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**Stuck in a blizzard:**  
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**Our athletes are awesome!**

The Naz Women's Soccer team, which includes **Courtney Malia ('16)** [and now **Laura Herman ('18)**] made it to the Final 8 in the NCAA Division III Tournament this November. Woo hoo!

And Congratulations galore to the Naz Dance Team, which includes **Emily Griffith ('16)** and **Megan Searing ('18)**. They placed first in the College Open Jazz division of the Universal Dance Association's New England Dance Championship. You can see the winning dance at <https://youtu.be/s17kC2Ozo3o>



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# Our Newsletter

## The Banneker Almanac

Guiding you in your mathematical quests

### The Class of 2014: Where Are They Now?

*We love hearing from our recent graduates! Here are the updates from last year's class (mostly written in Fall 2014).*

**Ashley Binnert ('14)** "Since graduating I moved to Syracuse and I am attending Syracuse University and getting my Master's in Teaching and Curriculum with an emphasis in mathematics. I am TAing precalc recitations and doing research for a professor for journal articles for simulations that he has previously done. Honestly, I haven't been doing much else, I am really busy with school work. Next semester I won't be TAing so hopefully I will be able to sub and get some experience!"



**Alan Connor ('14, minor, Chemistry major)** might have joined a Circus.

**Grace Crowell ('14)** is in the Inclusive Childhood graduate program at Nazareth. We see her in the Math Center sometimes.

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### Benjamin Banneker

Benjamin Banneker (Nov. 9, 1731–Oct. 9, 1806) was an American mathematician, scientist, and author. At the age of 22 he made a working clock out of wood, carving each piece himself, that continued to run accurately for his entire life. He was well known for his ability to both create and solve mathematical puzzles.

When Banneker was 57 years old, George Ellicot and his family moved in near Banneker's family farm, and Ellicot lent Banneker some books on astronomy. With only a rudimentary elementary education, Banneker taught himself algebra, geometry, trigonometry, and astronomy, and became

an accomplished astronomer, accurately predicting solar and lunar eclipses. He published a series of almanacs that included astronomical tables, weather predictions, and tide tables. His journals contained a number of mathematical puzzles.

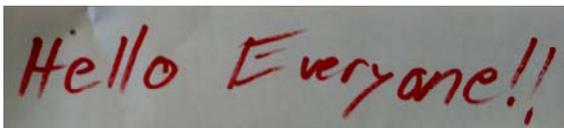


# Our Newsletter

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**Ryan Dygert ('14)** left us a note in the Math Center:



**Shauna Fitzgerald ('14)** is working at a local bank.

**Katie Heib ('14):** "Right now, I am a graduate student at Naz studying for an MS in the Inclusive Childhood Program. I will have my Master's by the end of summer 2015! I am also a teaching fellow, conducting research at Harris Hill Elementary School in the Penfield School District two days a week. I am researching small group instruction of reading comprehension strategies for understanding in math and ELA. On the other three days, I'm hired as a substitute teacher for the Penfield, Fairport, Brighton, and Victor School Districts. I'm missing the undergraduate experience, but am having a blast being in the 'real world!'"

**Caitlin Henderson ('14):** "Currently I am enrolled in the Graduate Inclusive Childhood Education Fellowship Program at Nazareth! So far the program has been pretty positive and has allowed me to dig deeper into my love for education ... and math of course! As part of my fellowship, I am currently completing an action-based project at Bay Trail Middle School in Penfield! For my research, I am working with 6th graders, who face challenges in the areas of mathematics and reading! I am then implementing different reading

strategies to see the effect(s) they have on these students' ability to solve mathematical word-problems. It has definitely been an adventure, as always, but I am enjoying it and love working with the teachers and students!!!! Other than that, my time has been

spent tutoring and writing papers upon papers...super exciting stuff right there! While it is weird to think about, I am most definitely hoping that I will have a classroom of my own by this time next year...I still can't believe how fast this phase of my life is going by! On an end note, although I am still at Naz, I most definitely miss all my fellow math peeps and all our fun times together!!! I hope everyone is doing well and most importantly, doing what they love!"

**Melanie Junge ('14):** "I am now a second grade teacher at Schoharie Elementary, which is in Schoharie, NY and it is the school I went to from kindergarten through 12<sup>th</sup> grade. I got this job a week before school started so the beginning of school was very busy! I have 18 kids in class and I am absolutely loving it!"

"I am hoping to begin my Master's this summer at SUNY Albany, even though I have no clue what I want to do. I am leaning towards Curriculum Development and Educational Technology but we will see what happens.

"I miss Naz terribly and hope to visit soon!"

**Katie Keesom ('14):** "I am currently at RIT getting my Master's

in Applied Statistics. That's basically all I'm up to. Haha. The program is intense, in my opinion anyway. I have to learn SAS and R computer programs, which was like pulling teeth at first, but I'm starting to get used to it. I used LaTeX today to type up my work for a midterm in my Regression Analysis class, so that was exciting. I'm glad I learned that, because trying to type matrices in Microsoft Word would probably have caused me all sorts of problems. That's all that's really going on in my life since graduation. Go to grad school, drive home. Repeat."

**Kyli Knickerbocker ('14)** is almost certainly riding horses, possibly even as you read this.

**Libby Kuney ('14)** is in the Literacy graduate program at Nazareth.

**Courtney Larkin ('14)** is not related to the poet Philip Larkin as far as we know, but she would probably enjoy the math poem by John Saxon:

A dozen, a gross, and a score  
Plus three times the square root of four  
Divided by seven  
Plus five times eleven  
Equals nine squared and not a bit more.

Speaking of limericks, you might enjoy the following one by David Morice:

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+ . ? /  
" :  
% ;  
+ \$ [ \

(Read it aloud to get the rhyme and rhythm effect, or visit *Futility Closet* from January 21, 2015 at <http://bit.ly/1CPTFMS>)

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**Brianna Laubacker ('14, minor, Chemistry Major)** is in graduate school in Chemistry at Penn State.

**Mary Losito ('14):** "I'm currently working as a 7<sup>th</sup> and 8<sup>th</sup> grade math teacher for an alternative education program through OCM BOCES. It's challenging, but amazing as well. I am very fortunate. In my rare free time, I still throw down a few beats by the one and only, Eminem. And of course, I'm missing the Nazareth Math department like crazy."

**Mallory Martino ('14)** jtfcejoh tfdsfu nfttbhft up gsjfoet.

**Alex McFaddin ('14)** might be teaching, or might be saving wildlife in Texas.

**Kailey Ritch ('14):** "I am in the inclusive childhood grad program at Naz and doing the Fellows program at Canandaigua in a fourth grade classroom. I am researching if using reading strategies (like graphic organizers) can help students increase their level of achievement on math word problems. I am also subbing in Canandaigua and I love the school so far! Naz classes are going well, they keep me busy. Otherwise, I am very much looking forward

to winter break! I'm glad you all are doing well!"

**Melanie Sarko ('14):** "I am currently in Galway, Ireland. I'm doing another tour of Europe this fall, as I have just spent the summer with the friends I made in Barcelona last year while studying abroad. Then in December my plan is to travel to Southeast Asia for an undetermined amount of time. So you could say traveling is 'what I am doing now.' And I guess I'm using math for determining a budget in each country? Either way, I'm missing the Nazareth community a lot. Thought of you guys today as I've been trying to solve a brain teaser [at right] in Galway's local newspaper. I've attached it below in hopes that perhaps everyone can give it a shot."

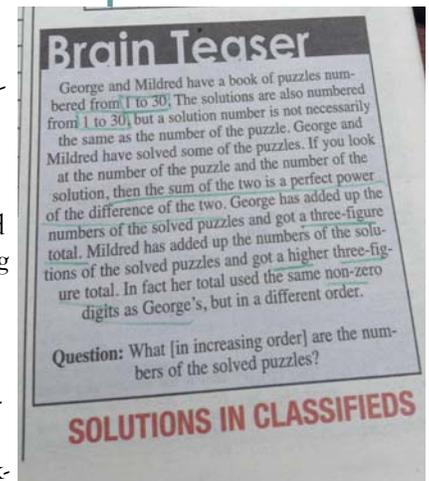
**Justin Sawran ('14):** "First of all, the fact that I was in school only 6 months ago seems unreal. It feels like much longer than that. Similarly, thinking that I've been in Madison and at Epic for only 4 months seems strange, too."

"July 1, I packed my life into my truck and drove 14 hours to Madison, WI. Started my job at Epic on July 7. Joined a Master's Water Polo team called 'The Hippos'. I've been learning my way around a new city, learning TONS

about my job – the world of healthcare, computer servers, programming languages, and so much more – and learning a new sport. I've just started to wean off of training at Epic, though I still have a lot more to learn and do to be 'certified' for my position. That has allowed me to start tackling actual work and projects with some healthcare organizations including installing our software.

"In general, Epic is a healthcare software company where we sell, install, maintain, and develop an electronic medical record system for healthcare organizations (hospitals and clinics) across the globe (yes, globe). My specific position is 'Technical Services' and we are assigned an application of the software. The app I am on is Care Everywhere which deals with exchanging patient information between organizations electronically, but securely via encryption and security certificates. Epic's 'campus' where I work is truly one of the coolest places I've been.

"I hope everyone is still doing well."



Epic's Madison, WI, campus.

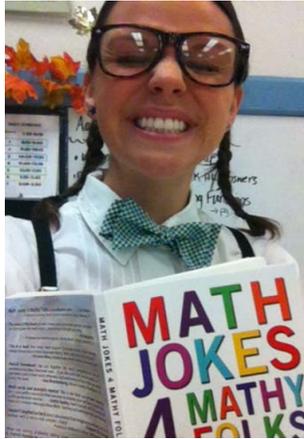


# Our Newsletter

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**Dyan VerSchage ('14):** “After graduation I was looking around for jobs at places like Paychex and such, but because of Nicole, I unexpectedly landed a teaching job! I am teaching 4 sections of 9<sup>th</sup> grade Algebra at Young Women’s College Prep, an all girls charter school in the city. My job is fun, different every day, I have NOT yet ‘seen it all’ by any means (although nothing surprises me anymore), and it is also exhausting and stressful. I miss being a student, but I love seeing the light bulbs go off in my students’ heads while in math class. Most of them are still math haters... I’m trying to change that. I organized the first spirit week for the school – I was a math nerd twin with another math teacher for



‘Twin Day’ complete with my Math Jokes book.

“I’m also trying to decide when I want to go back to grad school, and where, and what for. Oh, and I still make cakes... because I can’t say no to people.”

**Jeanine Youngers ('14):** “Since graduation I’ve definitely been stay-

ing busy! I am still working for Lifetime Health Medical Group. In addition to billing for their Dental Office, I have started billing the Fidelis claims for their Western New York region. They have also offered me the opportunity to take a class to become a Certified Professional Coder (CPC for short), so I jumped on that. A CPC looks at a doctor’s notes and helps to determine the codes to send to insurance companies so they can get paid. I started the classes in August and the exam is in December (so hopefully that will go well). The books we use to code are bigger than any textbook I had in school. And in other news, I am thinking about going back to school. I have this crazy idea that I might want to teach college (haha!)”

## Naz students Study Abroad

**Kelsey Quigley ('17)** spent the fall studying in Berlin, Germany. Although the program wasn’t a math program per se (and Naz students from all majors have been attending for years), there is an internship component and Kelsey had the opportunity to study at the Weierstrass Institute for Applied Analysis and Stochastics, working in the Numerical Mathematics and Scientific Computing research group. She was able to do some mathematical programming to help with a current research project and attend weekly lectures by mathematicians from around the world.



**Kelsey at Sanssouci Palace in Potsdam.**  
(That’s Potsdam, Germany, so don’t go driving up through the Adirondacks in order to find it.)

## Naz students Study Abroad (cont.)



Also this fall, math majors **Quintin Smith** (December '15) and **Vanessa Argento** ('16) headed over to England. Quintin and Vanessa were both student teaching in the fall, and after doing their first placement locally they headed over to Leeds for the second. They got to experience classroom life in another country, teach students core subjects like “maths”, teach about American traditions such as Thanksgiving, and travel.

**(left) The Naz contingent at Leeds! Quintin is on the left-hand side; Vanessa on the right.**

**(below) Vanessa at Edinburgh Castle; Quintin in Paris**



And students are still travelling! **Sara Edell** ('17) is spending the spring in Florence, Italy through yet another Nazareth program. She chose this one because she didn't have to be fluent in Italian, and because it was in Italy.

**Sara at Boboli Gardens at the Pitti Palace where the Medici family lived in the 15th century. The city of Florence is in the background.**



## Welcome new math guy Max!



Two-year old Alex with his three-month old brother Max.

Nicole and Adam Juersivich welcomed young Maddox ("Max") in November. The whole family is doing fantastic. Congratulations!

### Where did our Logo come from?

As we were putting the Purple and Green Logo amidst the problems below ("That's green?") Matt wondered where it came from. Well, no he didn't, but Heather told him anyway. It was designed by our own math majors back in aught aught or so when the Undergraduate Association made a quilt of all the clubs. This was the Math Club's square.

**This issue was brought to you by the number 1**

## Sudoku

☆☆☆☆

	9	6			2			
6		2		3		1		
	1				8		7	
9				2				1
5				1				4
3				6				2
	4		3					9
		9		7		4		6
	6				4		1	

brainfreezepuzzles.com

Rules: Fill in the grid so that each row, column, and 3x3 block contains 1-9 exactly once.

### Solution to last issue's sudoku

2	6	7	5	4	1	8	9	3
5	9	1	8	7	3	2	4	6
3	8	4	2	6	9	5	7	1
4	2	9	7	3	5	1	6	8
8	1	6	9	2	4	3	5	7
7	3	5	6	1	8	9	2	4
9	4	2	1	8	6	7	3	5
1	7	3	4	5	2	6	8	9
6	5	8	3	9	7	4	1	2

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$e^{2\pi i}$

## Problems

### Solutions to Problems 9.1:

9.1.1: Multiple solutions, such as the one on the right:

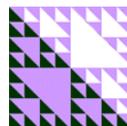


9.1.2: 13-33 students

9.1.3: 324

**Problem 9.2.1:** How many arrangements of the word MATHEMATICS have the vowels in alphabetical order?

**Problem 9.2.2:** Find distinct points A, B and C on the parabola  $y = x^2$  such that the distances AB, AC, and BC are all rational numbers.



**Problem 9.2.3:** Find a 6-digit number such that the first digit is one more than the third, the second is one less than the fourth, the fifth is one less than the third, and the sixth is one more than the fourth. The first digit is the sum of the second and third, and all 6 digits sum to 30.

I

Send solutions, articles, alumni news, alumni, pie recipes, pies, math jokes, math, Danishes, Danes, Great Danes, window panes, or suggestions to Heather (hlewis5@naz.edu) or Matt (mkoetz1@naz.edu).