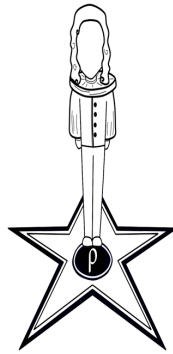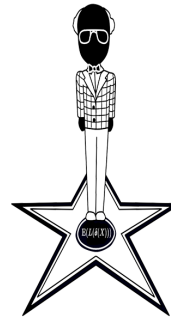Archimedes   Bayes   Bernoulli   Blackwell   Euclid
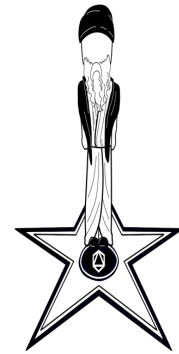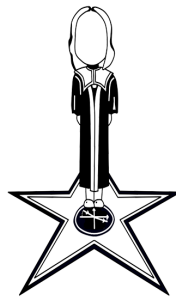
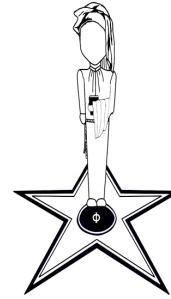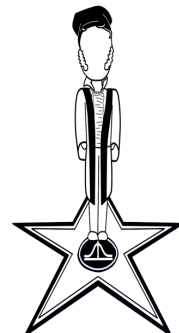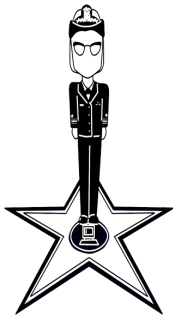Euler   Fermat   YOU!!!   Fibonacci   Gauss
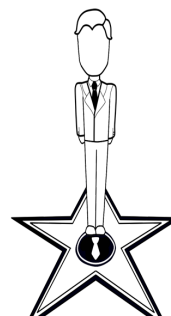
Hopper   Newton   Pythagoras   Stanton   Turing

# "WHAT DO YOU WISH YOU'D KNOWN IN FIRST YEAR?"

Hello and welcome to you, first year Math student!

This is **mathNEWS**, the University of Waterloo's bastion of erudite thought, and official newspaper of the Faculty of Mathematics. We've been running since 1973 and publish a new issue every two weeks, usually 6 issues a term.

An issue of **mathNEWS** is made of a lot of different parts. After the cover is what we call the **mastHEAD**, composed of a blog-style article written by the editors (a.k.a. the one you're reading right now) and a question and answer section with our writers. This issue's question is "What do you wish you'd known in first year?", wherein the **mathNEWS** writers and editors give advice they wish they had when they were wee little padawans like you.

The bulk of the issue is formed from the many articles and pieces of artwork we get from the **mathNEWS** community. This **mathNEWS** Special Editon™ focuses on articles from faculty clubs and other informative articles from our writers. There is still some of the classic **mathNEWS** spirit, which is to say utter chaos. We've got low-effort articles that are derivatives of others, inside jokes, surrealist comedy, and some arguably tasteless jokes that will definitely get me a stern talking to. Surprisingly enough, we've even got a couple articles of actually interesting content. Not in this issue are poems, articles written by profs, **profQUOTES**, research papers, terrible puns, and passive-aggressive complaints about profs and courses.

At the end of the issue we have our crossword puzzle, the **gridWORD**, occasionally joined by another puzzle called the **haltingPROBLEM**. On the back there is the **lookAHEAD**, a two week calendar of upcoming events that mathies might be interested in. The publication date of the next **mathNEWS** issue is the highlight, of course.

That about wraps it up. We hope you enjoy this issue, and don't just shred it for your hamster's bedding. Best of luck with your new university career, try to resist the urge to read **mathNEWS** instead of going to class. I know it's tempting.

Have a great orientation week!

*swindlED*
*Editor,* **mathNEWS**

| | |
|---|---|
| **Various Pseudonyms** | Everyone's just as awkward and unsure of themselves as you. They're also just as desperate to make new friends. |
| **SIGSEGV** | You can make really good ice cream floats with the Jones soda and vanilla ice cream in the V1 caf. |
| **ME** | For the sake of the anti-meme: you should have gone to U of T |
| **YOU** | Don't be mean to people from other faculties. Just because they're not |
| **Diminuitive Rex** | Make friends with your profs, go to class, and go to office hours. |
| **tbdED** | Info sessions have free food. There is no shame in going to all of them. |
| **swindlED** | Don't buy textbooks until you've been to the class. Many professors don't want you to buy the textbooks either, and will say if an old version, or free alternative is equivalent |



back to school!!!

# Welcome to Waterloo Math!

**ANUJ OPAL, mathNEWS EDITOR FOR FALL 2018
ALONG WITH ESTHER AHN AND CLYDE BROWN**

# FOC SEZ



Thank you for coming to Orientation! We are the 2018 Federation Orientation Committee for Math, and we've worked really hard (alongside our Orientation Advisors, Math Orientation Directors, Pink Ties, and Black Ties) to make this week awesome for you! We hope that this week you will make a ton of friends and build a network that you can reach out to when the things you've read about in memes actually happen. You'll see us floating around during the week in yellow vests – ask us anything!

Welcome to Math!

*David, Peter, and Hyla*
*2018 Federation Orientation Committee*

# MENTAL HEALTH SERVICES

Greetings, mathies! This is a gentle reminder that there exist many resources for students with mental health concerns. There are a number of math students at Waterloo with mental illness, so you are not alone. If you have a mental health concern, or suspect that you may, please do not hesitate to get in touch with medical professionals such as:

- Health Services (519-888-4096)
- Counselling Services (519-888-4567 ext. 32655)
- Needles Hall Addition, NH 2401
- Good2Talk (1-866-925-5454)

You could also speak to a first-year advisor for academic and administrative advice, or register with AccessAbility Services for academic accomodations (519-888-4567 ext. 35082, NH 1401).

If you would like more information on how you can contribute to mental health reforms within the faculty, feel free to contact the Vice President Academic (`vpa@mathsoc.uwaterloo.ca`) or the Associate Dean Undergraduate, Francis Poulin (`math.ug.ad@uwaterloo.ca`).

*swindlED*

# MATH ABBREVIATIONS 101

**ActSci** - Actuarial Science. A major you can choose within the math faculty. Pairs nicely with statistics, ambition, and a love for ca$h money.

**CFM** - Computing and Financial Management. A program that combines Computer Science and Finance. This program is your ticket to fitting in with both fancy finance people and nerdy computer science people. And possibly your ticket to an identity crisis if you read too much into that.

**C(&)O** - Combinatorics and Optimization. A program within the Math faculty. It answers the questions of: "Which major should I choose in order to maximize pleasure, knowledge, and future earnings using at most a specified quantity of effort and time?"

**CS** - Computer Science. CS students are the people who are qualified for all the co-op jobs you wish you were qualified for. Strangely, they also seem to be the majority of people you meet during Math orientation.

**DC** - William G. Davis Computer Research Centre (Davis Centre). A couple lecture halls, many offices, the DC library, and most importantly: 2 Tim Horton's. The same homey feeling as MC. The DC Library is easily one of the greatest places to study among other mathies.

**DD(C)** - Double Degree (Club)-A program that allows students to get a BBA from Laurier while simultaneously getting a BMath or BCS from Waterloo. This program is a "Happy Hell" that causes a lot of suffering but also makes you enjoy it.

**DP** - Dana Porter (library). This is the big library on campus. DP may make you feel like you are cheating on DC, because you are. But DC can't compete with the tenth floor views. Sorry, DC.

**ELPE** - English Language Proficiency Exam. An exam that math students once took to answwer the crucial question: "Can u engLish gooD"? It was deemed ineffective and replaced with mandatory courses.

**FARM(SA)** - Financial Analysis and Risk Management (Student Association). A program within the Math faculty. Not like the kind with cows and chickens and tractors and stuff.

**Softies** - Software Engineers. Weird hybrid creatures that belong to both Engineering and Math. They are mostly harmless and our friends. They can be identified in the wild by their blue ties.

*TheUndecided*

# MATHSOC SEZ

Hello first-year Mathies!

Welcome to the Faculty of Mathematics! The Mathematics Society (or MathSoc, for short) is the student society for all math students and also acts as your student government on the faculty level (sort of like your student government in high school). And since you're a math student, you're already a member!

The MathSoc office is located in Mathematics & Computer (MC) 3038. If you've been on a math faculty tour, you may remember us as the room with the immense collection of board games and candy.

### WHAT CAN MATHSOC DO FOR YOU?

MathSoc represents all math students (that means you!) on various governing bodies throughout the university. We also provide many services towards all math students! Here's a small snippet of what MathSoc provides to you:

- Faculty-approved calculators for the best prices on campus! (Cause the one you get in your orientation swag bags are kinda hard to use.)
- Free candy!
- Cheap photocopying and printing!
- Three Pi Days every year (one for each term)!
- Locker rentals - you can register for a locker online at mathsoc.uwaterloo.ca once signups open mid-September.
- Textbook library so you have access to material when you don't have your books with you. This includes most first and second-year core courses.
- Cool math T-shirts, sweatpants, sunglasses, old pink ties and more (including a shirt that's banned from exams), to help you show off your math pride!

### HOW CAN I GET INVOLVED WITH MATHSOC?

Represent your fellow first-years and join MathSoc as a first-year class rep! Have your voice heard and make decisions which affect all math students. This a great way to get involved in first year! Nomination and election dates will be announced very soon.

If you're not into student government and want a more relaxed role, there are multiple volunteer opportunities available!

- Have great customer service skills (or just want to develop them)? Want to get to know MathSoc well and join a large team that keeps the MathSoc office open (and perhaps make some lifelong friends)? Sign up to be an Office Worker.
- Want to work closely with one of the MathSoc executives and get to know MathSoc really well? Apply to be an Executive Assistant!

- In a business/accounting program and want to gain some real-world accounting experience? Volunteer as a Finance Director and help with MathSoc finances.
- Like taking the lead and working on projects? Sign up to be a Special Projects Director.
- Do you have great communication skills? Spent all of your time on Facebook, Twitter and Instagram? Like graphical design? You may be a great Marketing Director.
- If you love designing shirts, laptop stickers or just have a passion for design, you'll definitely be interested in becoming a Novelties Director.

### COME FIND US DURING ORIENTATION!

MathSoc is also participating in orientation - some current and past MathSoc executives might even be one of your leaders! See if you can spot us - we're scattered throughout Team Euclid, Bayes, Euler, and Pythagoras!

Keep your eyes peeled to your UWaterloo email, **mathNEWS** and the MathSoc Facebook page (facebook.com/mathsoc/) for more details on all of these opportunities, including application deadlines.

If you have any questions, send an email to exec@mathsoc.uwaterloo.ca, or message us on Facebook!

Have a great term!

*Ina Wang (VPO)*
**MathSoc Exec, Spring 2018**

*Alex Lee (Prez), Krishna Pasumarthy (VPF),*
*Clayton Halim (VPO), Kanan Sharma (VPI),*
*Cristian Mustatea (VPA)*
**MathSoc Execs, Fall 2018**
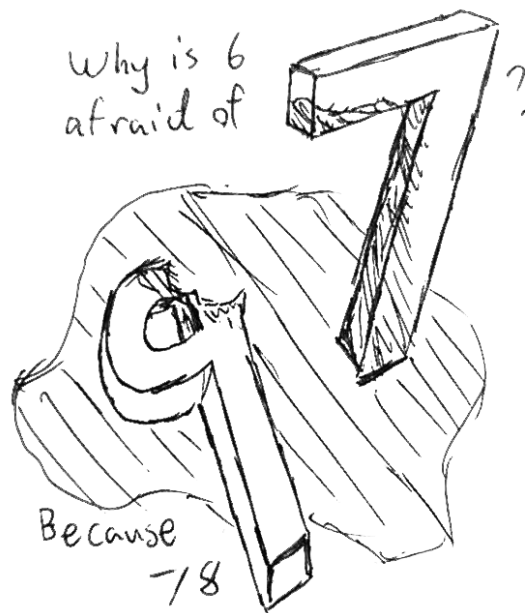
# MATH ENDOWMENT FUND SEZ

Hello Mathies!

On behalf of the Math Endowment Fund Board of Directors, welcome to the University of Waterloo Faculty of Mathematics!

### WHAT'S THE MATH ENDOWMENT FUND?

The Math Endowment Fund (or MEF for short) is an $8 million endowment fund that seeks to finance projects and support clubs that benefit undergraduate math students. Fun fact: Math Orientation is sponsored by MEF!

### THIS MEF THING SOUNDS PRETTY COOL! CAN I HELP?

Well, eager first-year student - have you ever wanted to allocate over $150,000 in funding? Well you're in luck - that's exactly what you can do as a member of the MEF Funding Council! Run as a first-year undergraduate representative - there are 3 seats available. You can also represent your program by running for program rep - there's 2 seats available per program. For more details, check out `uwaterloo.ca/math-endowment-fund/funding-council`.

### BUT I DON'T HAVE ANY EXPERIENCE WITH ACCOUNTING, FINANCE, OR ANY FIELD OF BUSINESS. IS THIS RIGHT FOR ME?

If you like listening to proposal pitches and granting funding to various student groups, you'll definitely enjoy being a part of Funding Council. It's also a good idea to join if you want to improve your pitching skills by listening to other pitches. Being a member of funding council is a low-commitment position - you only attend about two short evening meetings. Did I mention free food?

If you have any questions, feel free to ask! Send an email to `mefcom@uwaterloo.ca`, like us on Facebook (`facebook.com/MathEndowmentFund/`) or check out our website (`mef.uwaterloo.ca`). You can also talk to us during orientation (I promise we don't bite)!

Have a great first term!

Sine sine cosine sine 3.14159,

*Alex Lee (Team Euler)*
*Executive Director, Spring 2018*

*Sunny Li (Team Newton)*
*Executive Director, Fall 2018*



# 8 ALTERNATIVE USES FOR TEXTBOOKS

So you were all excited and bought all your textbooks during Orientation Week. Now, the day of the exam, you say to yourself "I spent $150 on that book, I really should open it at least once." So here's a list of some things you can do with textbooks:

1. **Weapon**: Some textbooks weigh several kilograms and are easily thrown.

2. **Weight training**: Books are heavy, weighing quite a few pounds each, and are easily lifted.

3. **Look smart**: Books are a means to show off the fact that you are educated and usually weigh less than a stone.

4. **Fly swatter**: Once, during a lecture, Prof. Jackson took his backpack and threw it at a wasp on the ceiling. Do you really think that it would have killed the wasp without a textbook in it which weighed more than twenty Newtons? Really?

5. **Building cardhouses**: Textbooks are sort of like big cards. So you can make really big cardhouses. Since most people won't have enough books to make a really kickass cardhouse, get your entire class involved. You know you have enough books when you are counting the books by the ton.

6. **Hammer**: Textbooks can bang things just like a hammer. They may even weigh many carats more.

7. **Screwdriver**: To put a screw in the wall, line it up where you want it and bash away. Works better if textbook exceeds 12 troy ounces.

8. **Lullabies**: The best way to fall asleep at night is to attempt to read a textbook. Or perhaps have someone bash you over the head with a textbook.

*Dave Nicholson*

# A FIRST YEAR'S GUIDE TO MC

Welcome, newbies! Now, being new students you no doubt find the MC to be a large, terrifying behemoth of a fortress from which no soul can ever escape. That doesn't go away. But I'm here to make you lost slightly less often when you're wandering these desolate corridors.

First of all, in each corner of each floor is an extremely useful map of the floor (just like in every building on campus), with room numbers and little pictures. If you're looking for a class or professor's room, these maps are key. (For the purposes of this article, West is defined to be the side closest to the SLC.) Also, every floor has women's rooms in the Northeast and Southwest, and men's rooms in the Northwest and Southeast. So you don't have to walk down more than one side of the building to find a bathroom.

First floor: You might have a class on the South side of this floor. There are exits at each corner of the building (and on the south side) halfway between first and second floors. Graham, the university's supercomputer, is located on this floor.

Second floor: You will probably have a few classes here, mostly on the North and South side. There are a couple of computer labs here, if you're in need of a computer lab. Media.Doc is in the middle of the floor too. This is a useful room for printing out anything you can't do yourself. Class slides, assignments, work reports, pictures of yourself sprawled out on a bed of rose petals...just bring them a USB drive and they'll print out what's on it, in whatever quality you want. They also do binding, photocopying, course notes, ID photos, and lots of other printing activities.

Third floor: This is really the heart of the MC. You have the Comfy Lounge and the C&D on the South side, most of the club offices on the East side, more labs in the middle and West side, and the MFCF over near Northeast. If you have problems with your Waterloo accounts or other computery problems, you can see them. It's also the home of MathSoc (MC 3038). You should swing by if you get the chance; they offer a lot to math students (including free candy!!!)

Fourth floor: There are a lot of classes here, as well as some important offices. The Math Undergrad Office, which you'll need to get course override forms and all kinds of administrative things, is on the North side. The Math Orientation Office is also on this floor.

Fifth floor: There are are a couple of prof offices on this floor, as well as a lot of graduate student offices. The Dean of Math office is also on this floor, on the Southwest side. Starting on this floor, the bathrooms start being a lot cleaner, too.

Sixth floor: Once an endless labyrinth of twisting corridors, the sixth floor has been renovated and is occupied by mostly professor offices. The South side has the CEMC, which is the department that helps schools in Ontario and all over the world to teach math and computers. Really great people.

Seventh floor: IT DOES EXIST! I'VE SEEN IT! IT— [The rest of this article has been withheld by the University Censorship Board, which does not in any way confirm the existence of a seventh floor of the Mathematics and Computers building.]

*Prometheus*

# YOUR GUIDE TO THE MATH C&D

The Math Coffee and Donut Shop (or Math C&D/CnD, for short) is a tiny little shop on the third floor of Mathematics and Computer (MC) building (it's the big old grey building that you'll learn to love).  Despite its relatively small appearance, the C&D is actually a million-dollar organization run by MathSoc! The C&D sells some of the cheapest food on campus, including coffee & donuts (duh), bagels, muffins, and other assorted baked goods. There's also a wide variety of pre-packaged sandwiches and meals (veggie and halal options are available!), sushi, as well as a rotating selection of soups and hot food. A small snippet of the hot food available:

- Mac & Cheese on Mondays
- Chicken + Vegetable Stew on Wednesday
- Chili on Friday

There's also garlic breadsticks on Friday (that sell out extremely quickly - *especially* when I'm on campus)!

You'll also hear people referring to the seating area connected to the Coffee and Donut Shop as the C&D - there are microwaves available to heat up your food, as well as plenty of seating (complete with power outlets) so you'll be able to eat and study at the same time! It's also a popular place to meet with friends to work or study together. There's board games nights hosted by MathSoc every Thursday night as well!

The C&D doesn't accept meal plan dollars (or any payment by Watcard - but they do accept cash, debit and credit!

Hope to see all of you around at the C&D!

*Axel*

# SMOKING HOT CO-OP ADVICE

Since the co-op process can be pretty intimidating and unintuitive for newcomers, I'll outline some tips for blazing your way to success on your first co-op. The CECA (official co-op people) will explain the process and requirements to you in the semester before your first co-op term, but these are a few extra tips and tricks for taking your game from so-so to flaming hot

### GETTING THE INTERVIEW

- It's all about the résumé, although on a side note, making sure you have a positive social media presence can help for some jobs as well.
- If you're having trouble writing your résumé, start by describing all of your work and volunteer/extra-curricular experience in the last 4–6 years, then reduce that down to simply the most recent and/or relevant positions. The final copy of your résumé should be 1–2 pages total.
- If you have personal side projects related to your field, definitely include them! For example, dropping a link to your GitHub account or a personal website is a great way to stand out if you're applying to programming or web development jobs.
- Don't underestimate the value of secondary soft skills like communication or teamwork. Even if they're completely unrelated to your major, you can use activities like playing in a band, being part of a club, or writing for **mathNEWS** *cough* shameless plug *cough* to show your leadership/ teamwork/ communication/other skills.
- Get someone to proofread your résumé. Seriously, I cannot emphasize this enough. Ask a knowledge-able friend or head to a résumé critiquing session on campus—find more than one person who will give you honest and detailed feedback on the quality of your résumé. Like a good essay, résumés usually need several revisions before they are presentable.

### PASSING THE INTERVIEW

- So you got an interview—congratulations! You've made it past the first step, so give yourself a pat on the back and then put on your war paint.
- Research the company before doing the interview. You should be able to clearly and concisely state what the company does if they ask (which some occasionally will).
- Make a list of your key strengths that you can market in that particular interview. Look for opportunities to tout these strengths as the interview progresses.
- There are some stock questions that come up frequently in interviews. Ex. "Tell me about yourself.", "What are some of your weaknesses?",

"Why do you think you fit this job?", "Why do you want to work here?". Thinking about your answer to some of these questions before the interview will help you avoid foot-in-mouth scenarios.
- Prepare a list of three to five questions to ask at the end of the interview. The employer may have already answered some of these questions during the interview, so having more than 3 means you can have back-ups. Make sure to include questions about things that will help you choose which job you want (work environment, pay, location, etc.) as well as ones that show interest in the position (job duties, typical work day, etc.)
- Find some good business wear, and arrive at least 10 minutes before the interview. Some interviews may start early,and if not then the extra time gives you time to breathe and calm down.
- Just relax. No seriously, just relax and be natural. You've already made it this far, you're prepared for this,

In the end, the interview process is a bit weird. You'll have some interviews that you thought you bombed only to find out you got an offer (that's how I got my first co-op job), some interviews that you were sure you rocked for which you are never ranked, and some interviews that go exactly as you expect. All you can really do at the end of the day is try your best and not take the results too personally. If you're having trouble, CECA offers lots of resources to help spruce up your job prospects and there are lots of other students and upper-years around campus who have tons of great advice. Best wishes!

*BlueberryMuffin*

# NOT SO "STRAIGHT AND NARROW"?

Hey mathies (and anyone else fortunate enough to be reading this awesome publication)! If you are gay, lesbian, bisexual, transsexual, pansexual, queer, questioning, or stray in any other way from the "straight and narrow" path of cisgender heterosexuality, you are not alone! The Glow Centre For Sexual and Gender Diversity, located on campus at the Student Life Centre, room 2102, is a safe space where you can meet similar people and/or seek support. As the oldest queer and trans student organization in Canada, Glow offers discussion groups, social events (including an annual trip to Pride Toronto), awareness campaigns, and other resources. For more information, visit www.feds.ca/glow or email glow@glow.feds.ca.

*TheUndecided*

# WHAT IN THE THE WORLD IS LOOP?

Over the spring term, there was an exciting addition to MC Comfy: an elliptical pool table! For those who don't know what it is: imagine a regular pool table, except it's in the shape of an ellipse and there's only one hole. Also - there's only 4 balls.

The elliptical pool table was purchased by Huawei, the Math Endowment Fund and the Dean of Math office. The table is one of only a few in the world; in fact it's currently the only one in the Americas!

Now - what's so special about elliptical pool? Well, it has many connections to mathematics (in fact, it was invented by Alex Bellos, a mathematician!) As some of you might now, an ellipse has two focal points; on the elliptical pool table, one of the focal points is the hole, and the other is indicated by a black dot. A special property of an ellipse is that every point on the curve of the ellipse (and therefore the edge of the table) makes the same angle to each focal point.

The object of the elliptical pool table (or Loop) game is similar to regular pool: here are the instructions from the official Loop website[1]:

- The object of LOOP is to win by potting a colour ball and then the black ball.
- The starting position is illustrated above: the black ball is on the dot, with a red and a yellow on either side. The cue ball is positioned anywhere on the line between the black and the pocket.
- The first player names a colour that he wants to pot and the first shot must hit that colour. The other player must aim to pocket the other colour.
- The game proceeds like pool, with each player taking alternate shots until the first person has potted their colour and the black. A player who pots the black with his or her colour still on the table loses the game.
- The key to winning at LOOP is always to calculate the angles by considering the positions of the focus points.

There's an excellent YouTube video on how to play Loop on the Numberphile channel: https://youtu.be/3WHBlPvK3Ek

It's a lot harder than it looks and takes hours to perfect – my first game lasted 10 minutes! Or maybe I'm just bad at pool[2].

If you want to play Loop, the cues and balls are located in the MathSoc office and can be checked out when the office is open. You'll need your Watcard.

MathSoc may be hosting a Loop tournament sometime during the Fall term  (maybe even a competition between professors and students!) - keep an eye out for posters and like the MathSoc Facebook page so you can keep yourself updated!

*Axel*

1. From http://www.loop-the-game.com/snoop/.
2. Probably the latter.

# N THINGS YOU SHOULD KNOW ABOUT YOUR WATCARD

*WALDO ENJOYS USING IT A LITTLE TOO MUCH.*

- It is a bus pass for the Grand River Transit. Simply show it to the bus driver and you can ride to wherever you need to get to!
- It is linked to your meal plan and flex dollar accounts, letting you just swipe to pay for things.
- If lost, immediately report it to the Watcard office or use http://watcard.uwaterloo.ca/ to deactivate it to ensure that none of the money is used by someone else.
- It costs $20 to replace so do your best to not lose it!
- You will need to bring it to EVERY EXAMINATION that you write. Don't forget it!
- It can be used at a lot of places on and off campus, including: restaurants (like Tim Hortons, Subway, East Side Mario's and the residence cafeterias), some stores (like those found in the University Plaza), the libraries (for things like printing, photo-copying, and signing out books), the laundry machines in residence, Waterloo Taxi (519-888-7777) and many more! For a complete list of where WatCard is accepted, visit http://watcard.uwaterloo.ca/.
- It is used as collateral for resources provided by certain services, like signing out games from MathSoc or booking a room from the Turnkey desk.

*waldo@<3.LE-GASP.ca*

# I wrote for mathNEWS → I get free pizza

A mathNEWS EDITOR WITH SOMETHING TO PROVE

# THE 3RD FLOOR OF MC

## *THE SOCIAL HEART OF THE UWATERLOO MATHEMATICS COMMUNITY*

Welcome to the University of Waterloo and to the Math Faculty! You've begun your journey towards an undergraduate math degree along with over a thousand other math students, and you'll probably meet a number of them in your classes and residence life. What a lot of new math students don't realize is that there is a large social community of which to be a part, and that there are many benefits to doing so. Let's have a look at some of the ways you can participate in the math community, most of which are located on the 3rd floor of the Math and Computing building, your new home:

**MathSoc**: The Mathematics Student Society runs many events during the year, and has many opportunities for volunteering and meeting other students. Many of the office workers are upper-year students, and all of them are willing to give you tips and help you feel at home. Some of the ways in which you can volunteer are to help staff the office, organize and run events like the our many Pi Days (we have three of them, one for each term!), and be a student representative on MathSoc Council.

The MathSoc office is in MC 3038 and has many services:

- Faculty of Math approved calculators for the best prices on campus!
- 5¢ photocopies for those lectures you missed.
- Staplers to staple those late-night assignments together!
- Computers, with printing for 10¢ a page.
- Locker signup so you don't have to carry around those heavy books all day. You can register for a locker online at `mathsoc.uwaterloo.ca`.
- Textbook library so you have access to material when you don't have your books with you. This includes most first and second-year core courses.
- Cool math T-shirts, sweatpants, Frisbees, bags, and more, to help you show off your math pride!

They also run various social events throughout the term. You can keep up to date with what's happening in MathSoc by visiting their website, `mathsoc.uwaterloo.ca`, or by liking Mathematics Society on Facebook!

**Program Clubs**: Almost every program in the Math Faculty has an associated club, which runs events geared towards their members' general interests and an office where you can meet like-minded students in a social setting. For example, the Pure Math, Applied Math, and Combinatorics and Optimization Club (the programs are small!) runs Prof Talks and math contests, and the Computer Science Club has Code Parties and Unix Tutorials. Club members tend to take courses together, so there are likely to be students with whom you can work together. Note that you don't have to be in the program to join the club! Watch for the MathSoc Clubs Day early in the first month of classes. Finally, note that a large number of Stats- and ActSci-related clubs are actually located in the

Mathematics 3 (M3) building. They're further away, but we still love them!

**Orientation**: Depending on when you're reading this, you're most likely either currently or have finished participating in Orientation Week. If you feel so inclined, next year you can switch roles, and be a leader of new students! In a leader role in Math Orientation, you have the opportunity to be a guide and role model for new students, and have a lot of fun along the way, meeting and working with the many other leaders; it's fulfilling and enjoyable to make the week go smoothly, and there are certain things that you only really experience as a leader. Watch for applications online! We've recently moved to the 4th floor, but check us out anyway!

**Math C&D and Comfy Lounge**: The two 'main' lounge areas of the MC are the sitting space outside the Math Coffee and Donut shop, and the so-called Comfy Lounge next door. Colloquially called the C&D, the Coffee and Donut shop is a great place to work in small groups with some table space and a power outlet or three, or sit and enjoy chili and a sandwich at lunch with a friend. The food is reasonably priced, and there is some part-time work available on occasion. There is also a balcony available, with some seating space there. The Comfy is where you can relax for a time, study or read in a nice chair, or participate in a MathSoc General Meeting. It is not for sleeping; that's what your room is for. The chairs are indeed comfortable, though, hence the name. As an aside, in both lounges there are microwaves; this is remarkably useful. A wide variety of students use both of these spaces; you're almost guaranteed to run into someone you know, or someone you wouldn't mind meeting.

That's a basic rundown of what you can find on the 3rd floor of MC; there are also labs and assorted study spaces on the floor. Make sure to spend some time exploring and visiting the offices; the people you meet will almost certainly benefit you in your time here.

*Good luck!*
*Scythe Marshall*
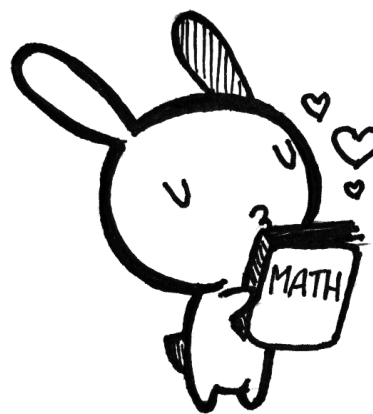
# MATHEMATICAL FICTION FOR THE NEW FRAA OR SUUR

Welcome to math at Waterloo! You may realize while you're here that you can't get enough of mathematics, and your courses just aren't cutting it. If you're ready for it, I highly suggest you dive in to reading papers, but if you're looking for something a bit "lighter" I have compiled a list of good fiction in no particular order.

**The Wild Numbers**: A Novel by Philibert Schogt. The Wild Numbers is a made-up problem for the novel, but the work describes fairly well what would happen if a mathematical nobody managed to prove Fermat's Last Theorem, or one of the other greats. As it happens, truth is stranger than fiction, and we have had a few of these examples pop out of the woodwork. Still good for inspiration.

**Surreal Numbers** by Donald E. Knuth. A novella by Knuth about two students trapped on a desert island, who go on to recreate all of mathematics. A fun read to understand why the underpinnings of math are the way they are. Available for free on <u>archive.org</u>.

**Math Girls** by Hiroshi Yuki. This is a novel that was adapted from a manga and has been translated from Japanese. It deals with three high school students who like math and their teacher who helps encourage them. The math content is mostly combinatorics and it is an excellent supplement when taking MATH 239 or 249. There is also a sequel about Fermat's Last Theorem.

**Logicomix** by Apostolos Doxiadis et al. A semi-historical biographical graphic novel about Bertrand Russel and the search for truth in mathematics. It uses some characters in an anachronistic way, but they are meant to represent letters and opinions of contemporaries in the mathematical community, even though they may not have actually met. Very light on mathematical content, it can be shown to lay persons with no issue. Also by the same author is Uncle Petros and Goldbach's Conjecture, which covers a lot of modern mathematical history.

**Flatland**: A Romance of Many Dimensions by Edwin A. Abbott. A satirical novella about class and society in Victorian Britain, endured moreso because of its examination of the concept of dimension and the ability to relate it to lay people. There is also an animated film inspired by it, and a non-authorized sequel called Flatterland, written 100 years later and dealing with non-Euclidean geometries.

**Anathem** by Neal Stephenson. The inspiration for the title of this article, Anathem deals with math monks and mathematical philosophy, as well as multiverses and quantum mechanics, from a couple of different perspectives. There is not much pure mathematical content, but it is an enjoyable romp with people

whose thought processes you can understand. Also by Neal Stephenson is **Cryptonomicon**, a novel about codebreaking in World War II and more modern cryptography.

**The Difference Engine** by William Gibson and Bruce Sterling. One of the progenitors of the steampunk genre, The Difference Engine imagines a world in which Charles Babbage's Difference Engine was built in the early 1800s, and deals with an imperial world with computing and information technology. Interesting in the notions of social ramifications of technology.

**NUMB3RS** created by Nicolas Falacci and Cheryl Heuton is a TV show about an FBI agent who uses a mathematician to help him solve crimes. The math presented in the show was verified by mathematicians, although there were some concerns as to how it was used, considering that at times it seemed only tangentially related to the plot. There is also a blog about the math behind NUMB3RS. It is six seasons long, so this might be one to take a bit at a time.

**Alice's Adventures in Wonderland** and **Through the Looking Glass** by Lewis Carroll. The fantasy work by Carroll, a pseudonym for an Anglican Deacon and logician, is inundated with logical wordplay and puzzles, surely to amuse the budding math student.

Gödel, Escher, Bach: An Eternal Golden Braid by Douglas Hofstadter. The penultimate work on symmetry in human thought and creation, it examines three people over time and considers how they are similar and different.

*Ice Nine*

# TAKING A MINOR

One smart thing to do with your degree is stick more words on it. There are two common ways of doing this at UWaterloo—heh, well, maybe three, but this column is far too short to discuss taking a joint. You can do the double major thing, or you can just throw a minor onto your degree. So what kind of minors are there? Well, there are those in math and those not. For mathie minors, you need a bunch of courses, but frequently they just overlap the ones you're taking so it turns out to be like four or five courses, perfect for filling up your math-course requirement without taking all STATs or something foolish. Now, for outside of math minors—perfect for those thinking of becoming teachers who want a non-math "teachable"—these take around ten courses, so plan ahead. It gives some structure to your electives, but they require you to take specific stuff that is only available in certain terms—hey, like why I can't finish my English minor on time. So, in conclusion, think about one, but try to plan early.

*Allen MacLeon*

# WEBSITES YOU SHOULD CHECK OUT!

## *THIS TOTALLY SOUNDS LIKE A SPAM E-MAIL*

- UWaterloo Daily Bulletin, the local school newsletter, published at 9 AM every weekday morning. Read with a discerning eye, may contain propaganda. http://www.bulletin.uwaterloo.ca
- MathSoc, the student society of the Mathematics Faculty. You can access a previous exam bank, sign up for free lockers, get involved with the society and find cool upcoming events. http://www.mathsoc.uwaterloo.ca
- UWaterloo and Waterloo subreddits, aggregators of stuff happening at the university and the region respectively. http://reddit.com/r/uwaterloo/ & http://reddit.com/r/waterloo/
- UWaterloo Schedule of Classes for Undergraduates, a tool you can use to see what classes are being offered in future terms, how full they are, and who is teaching them. http://www.adm.uwaterloo.ca/infocour/CIR/SA/under.html
- Waterloo Region Record, the regional newspaper, has adequate local coverage. You can also pick up free copies of the printed version in the SLC. http://www.therecord.com

*Ice Nine*

# TAKING A MINER

One smart thing you can do with your free time is kidnapping. There are two common ways of taking a miner at UWaterloo— heh, well, maybe three, but this column is far too short for such interpretations. One involves kidnapping, while the other, umm, also involves kidnapping. It's really all about who you kidnap. I am not a big fan of kidnapping the young, so I'm going to recommend you take a grown-up miner. Of these, there are several kinds available for the taking. Uranium miners tend to have radiation issues, so try to keep your distance. Coal miners are typically less biologically dangerous; however, there is the mess issue. Those who work in sepulchres or open-pit mines don't usually get covered with as much murk and mess, so I find them the best after the act of taking a miner, but getting them is awkward. Miners who work in shafts can be taken from their shafts a lot easier than kidnapping open-pit workers. So, in conclusion, kidnap guys who work in clean shafts. Or Shaft.

*Davey R. Adams*

# THE FIRST-YEARS CORNERED

There are several things that one must remember from Orientation Week. Unfortunately, most of these things will be forgotten for various reasons. Below are a list of things first-years should learn over the course of the week.

- In a pinch, protractors can be used as spoons.
- On move-in day, if you let your parents go through your orientation kit first, there is a VERY uncomfortable silence when they see the condoms.
- The Comfy Lounge has always smelled like that.
- Telling jokes you heard at 5:00 AM from Tie Guard will not help you get dates, as what was funny then is incoherent rambling now.
- A good pick-up line is, "What's your co-op sequence?"
- Through an odd warping of space-time, profs are able to talk for 2 hours in a 50 minute period.
- The more you learned in your final year of high school math, the more you have to un-learn in MATH 135 and 137.
- If your roommate is an engineer, you had best sleep with your tie on to protect it, much in the same way they will sleep with their hardhat on.
- Hypnotized jocks are more fun than a barrel of monkeys.
- Imprint absorbs twice as much liquid as the other leading brand of paper towels.
- Software Engineers do not like being called "Softies," but that's their name regardless of the undertone.
- You should have taken the blue pill, not the red.

*Ian W. MacKinnon*

# EXTRACURRICULARS
### *THEY'RE STILL THINGS!*

Now that you're at university, you should be focusing on your studies. You're paying money to be here and learn, of course. However, just because you're in university doesn't mean that you should give up all of your favourite extracurricular activities. It is more than possible to succeed in your studies and still have fun doing non-math-related things. Here are some common ways to continue doing the things you love:

**Varsity Sports and Intramurals**: If you play a varsity sport, such as hockey or squash, or if you do cheerleading (check the UWaterloo Athletics website for the full list of sports), feel free to try out for the teams! Varsity sports are a great way to continue to train and be competitive in your sport, and athletes can get perks, such as reserved training time and free massages. If you're not that competitive, but you still want to play, there are intramural leagues for many commonly-played games, notably dodgeball, handball, and ball hockey, amongst many others (check online for which leagues are being offered). This is a great way to play the sports you love or to try out new ones! There are also various lessons offered by Campus Recreation, like swimming and dance.

**Music**: There are many ways to continue making music at Waterloo. The Music Department offers studio and theory/skills courses at a variety of levels, and more importantly, has a handful of ensemble classes for which you can audition, including a jazz band, two sizes/styles of choir, and chamber ensemble groups. These classes are worth .25 course units each, half of a normal course, so it's a neat way to obtain some of your non-math credits. Separate from the Music department is the university's orchestra; if you're talented and play an orchestral instrument, the music is at a high level and is rewarding to master. UWaterloo also has a vibrant A Cappella community comprising of several distinct groups that sing on campus. Other groups include the Concert Band Club, the Warriors Band (our pep band at sporting events), and an informal jazz combo, amongst many others. And if you just want to listen, most concerts take place at the end of each term; come out and take in some great music!

**Theatre**: The main way to get involved in theatre on campus, outside of Drama courses, is to participate in FASS! Standing for Faculty, Alumni, Staff, and Students, FASS is UWaterloo's musical theatre troupe, and they write and stage their own show every February. Auditions are in early January, so it doesn't take much time at all, and the commitment ranges from a small acting role to a stage/band/tech role to the

star of the show! It's a great experience, and can lead you towards other theatre opportunities off-campus, such as at the Kitchener-Waterloo Little Theatre (small theatre), and Theatre on the Edge (improv comedy). The Engineering Students Society usually puts on a production called EngPlay as well, so there's lots of theatre to see.

**And More**! Early on in each term is an event called Clubs Days, where you can learn about all the clubs on campus and see if any of them do some of the things you do! For almost everything, there's a club or group doing it. For trivia, there's the Quiz Bowl club; for Dungeons and Dragons and other role-playing games, there are WatSFiC and a couple of separate groups; there's the Campus Crusade for Cheese, where you can hang out and eat awesome cheeses; and the Go Club, for competitive players and beginners alike! Watch for details on the Feds website, `feds.ca`!

Make sure to go out and do things that aren't related directly to your academics. Studies show[citation needed, I guess], and personal experience verifies[it's not even possible to give citations for this] that students tend to be happier and more motivated if they're doing some extracurriculars. It's fun, and it allows you to relax, so that you can work better when you do get back to studying. All work and no play makes a student's happiness delay.

*Scythe Marshall*

# N ANCIENT ARTIFACTS UNEARTHED IN THE math**NEWS** OFFICE

Over the years, the **mathNEWS** office has became a haven for strange objects. A repository of lost and forgotten things, eldritch artifacts gathered from places few even know exist, much less dare speak of. Only a small number have been lucky enough to make pilgrimage to it's hallowed halls, this is only some of the fantastic objects they have discovered:

- The storied red books, containing the works of thousands of mathies from ages past
- A pile of punch cards, likely encoding the nuclear launch sequence
- An install disk for Ubuntu, fashioned into some sort of disk weapon
- That most ancient and nearly forgotten human technology, a land-line telephone
- The most vile soft drink every fabricated, Orbitz
- Original vinyl records from the 1980s
- Student publications from numerous faculties and decades, proving that students have always, and always will, complain about their professors

*Various Pseudonyms*

> ## It's a side effect of the alien probes.
> ### PROF. DAVID MCKINNON

# A HOW-TO GUIDE FOR THE ADVANCED COURSES

## AND WHY THEY'RE NOT QUITE AS SCARY AS YOU THINK THEY ARE

Do you remember choosing your courses this past summer, and reading about MATH 145/147 and CS 145? These are the so-called "advanced" level math and computer science classes that you can take in your first term in math at UWaterloo. This is an article intending to clarify the role of the courses, and emphasize why you should consider them.

The advanced math courses are called "advanced" not primarily because of a difference in difficulty level, but because of a difference in approach. The advanced math courses focus on teaching you theory and proofs, as opposed to applications. In the advanced math classes, you will see definitions of mathematical objects and properties, as well as statements and proofs of general mathematical statements. On your assignments, you will be expected to use these results to prove (or decide the truth of) other statements. The focus is on a theoretical understanding of math in the abstract case, as opposed to how to use math to compute things in concrete cases.

Doing assignments in advanced math courses is a lot like solving puzzles. You are given all the pieces of the proof, all the ideas, terms, definitions, and theorems you will need, and you just need to figure out how they fit together to complete the proof. Admittedly, these puzzles will sometimes be significantly more challenging than the similar ones that you would see in the regular honours level courses, but it tends to be the case that if you participate in the course and put effort into it, you'll gain the tools to succeed.

The advanced level computer science course, CS 145, is a faster-paced version of CS 135, where you jump right in to high-level abstraction and algorithms. In much the same way as the math courses, CS 145 does emphasize the theoretical aspect of programming, but it also challenges you to work on how to code effectively and efficiently. This, and the follow-up course CS 146, can be great starting blocks for a successful CS degree and career.

Note that it is indeed true that the advanced courses are not for everyone. Not everyone appreciates or needs to know the theoretical aspects of algebra or calculus or computer science, and that's just fine. However, if you are interested in what the advanced courses are all about, there is no reason you should be wary of trying to take them.

There is theoretically (hah!) no downside to enrolling in the advanced courses—you can drop from the advanced courses to the corresponding regular level course at no penalty, right up until the day of the final. This is a special policy that is designed to give you the opportunity to succeed. Practically, this is a bit of an issue if you actually do drop down very late in the term, because you will probably have not had the same amount of practice as the students in the regular level course at some of the more computationally heavy portions of the course. Talk to your professor and advisor as soon as possible if you end up contemplating this option.

More information about the advanced courses is available at the special information session during Orientation Week, if you're reading this before it actually happens, and from the firstyear advisors and the Pure Math/CS departments. Now that you know a bit more about the advanced courses, and are hopefully intrigued by them, you should learn how to enroll in them! If you didn't have the option to do so earlier, you'll have to talk to the instructors who are teaching the courses and fill out course override forms which you can submit to the Registrar's Office. Procedural information can be found online.

If you are trying to transfer courses, and you haven't yet, try to at least sit in on the lectures of the target class. Keeping up on the material in the advanced courses is highly important, especially early on.

Once you're in an advanced course, be sure to put effort in! They are usually more challenging, if not by design, but they are very rewarding, both epistemologically and grade-wise, since the idea is that if you are in the advanced courses, you'd probably do very well in the regular level courses. This is dependent on the work put in, of course. Note that your class is much smaller than a usual first-year math course, and so it's not only easier to meet others in the class, but establishing relationships with them and with your professor will be much more fruitful, as you can work on problems together or get help. The advanced math community tends to be close and supportive, so you'll never be alone in any struggles you might have.

Best of luck!

*Scythe Marshall and TheIdentity*

# FEED ME!

It has come to my attention that I am hungry. I'm usually stuffed full of Mathie goodness, but I was abandoned for most of the month of August.

You can feed me most anything; I'm not very picky. Some of my favourite foods include: **gridWORD** solutions, **profQUOTES**, articles, comics and money. Especially money.

Please send all food to me care of my top slot. I can be found between the Comfy Lounge and the Math C&D. And you can feed me online too! I can't use the Internet myself, but if you email the nice people at mathnews@gmail.com they'll feed me at no cost to you! Please don't send food as attachments though; just stick it into the body of the e-mail and it'll be scrumptious

*The* **mathNEWS** BLACK BOX

# CONTRIBUTE TO math**NEWS**!

Hello, dear reader!

Now that you've gotten a taste of the grand publication that is **mathNEWS**, I'm sure you're wondering: how can you, esteemed reader and person of great intellect, contribute to such a beautiful thing?

Luckily for you, it's easy! No skill or talent is required to join the enterprising team of writers, artists, and editors that is **mathNEWS**. (Well, there may be a little required if you want to become an editor. But it's not much, I swear!) There are quite a few ways to contribute to **mathNEWS**, and all are listed below:

1.  You can show up to one of our **mathNEWS** production nights! This is when most of our content gets produced. It's always a fun way to mingle with other **mathNEWS** people, and get free pizza to boot. They're every second Monday, from 6:30pm to about 9pm. We tend to meet in the MathSoc office, then go down to one of the second floor computer labs. Watch for posters around MC that will go up when a production night is near! There's no obligation to keep attending, so it's a good way to test out the waters and see how you like **mathNEWS**.

2.  Email your article/illustration/**profQUOTE** to mathnews@gmail.com! This method does not include pizza and socialising, but who knows, maybe you're tired of both those things.

3.  Drop it off at the **mathNEWS** office, MC 3030. The editors are often around and in desperate need of human contact, but if they're not, you can just slide papers under the door.

4.  Perform a dark ritual to summon the fabled **mathNEWS** gods of olde. This is by far the most difficult, as **mathNEWS** is not legally authorised to publish the incantation needed for this bit of dark magic. You'd have to do your own research, gather your own sacrifices, use your own blood, etc. It's much easier just to come to production night.

With all these ways to contribute to **mathNEWS**, who needs a real social life? Join **mathNEWS** today to feel loved.

*itorED*
*Editor,* **mathNEWS**

# N THINGS TO KNOW ABOUT WATERLOO

*WALDO STILL NEEDS TO LEARN A FEW MORE THINGS TOO.*

*   The geese are here to stay, no matter the season.
*   If you want to get involved at Waterloo, check out Clubs and Services Day in the Student Life Centre to see what clubs you can join.
*   Sometimes random things end up in random places, like the snowman on top of the Biology building one winter.
*   The ninjas always seem to invade "N Things" but no one really knows why.
*   You'll likely figure out what kind of university career you want to take and how you need to get there by the end of your first term (or your first year).
*   There are underground tunnels and overhead passes between buildings for warmer travel during the winter.
*   If you need certain things, like stationery or printing, MathSoc is often the cheapest place on campus to get it (but remember, it's cash only!).
*   Time management and scheduling can play a huge part of any term.
*   **mathNEWS** can be a good escape from the hustle and bustle of Friday mornings every couple of weeks or so.
*   If you want to find Waldo, try coming out to a **mathNEWS** meeting and writing for us!

*waldo@<3.LE-GASP.ca*

# WELCOME TO WATERLOO!

## gridCOMMENT *138.0*

Greetings new mathies! This is the **gridWORD**, the crossword puzzle that appears in every issue of **mathNEWS**

The publication of a new crossword begins a contest where you can submit a completed grid for a chance to win a $5 gift card to the Math Coffee and Donut shop (i.e. the Math C&D). The contest's deadline is the next issue's production night, usually at 6:30 PM the second Monday after. To break a tie in case of muliple correct submissions, we pose a **gridQUESTION** and hint that we seek the answer that is silliest, sunniest,

sappiest, saddest, etc. We retrieve your crosswords and answers from the **BLACK BOX** on the third floor of MC, beside the Comfy Lounge, so drop them off there! The first contest will begin with the next issue.

The solutions to this issue's **gridWORD** can be found on the back page.

Happy puzzling!

*yclepED*

## ACROSS

1 (With -gate) to repeal a law
5 Additive identity
9 Halifax water, for short
13 "I'm a doctor, look at meeeee!"
16 What the postman brings
17 High pressure dinner bell on the ranch
19 It might cause a blackout
20 Tear
21 Oxygen/Nitrogen/Tin/Lanthanum
22 ___ Speedwagon
23 Happily
26 Small town between London and Cambridge
27 The time in Waterloo these days
28 Hubbub
29 A Romanian hero
30 Soldiers
33 An association of perjurers
36 According to instructions
38 Group of chef Childs' devotees
40 Ad ___
41 ____ Major (or Minor)
42 Zollinger-Ellison Syndrome, for short
44 Popular online image format
47 Tiny vegetable
48 Marshes
51 Literally the letters "HVR" (is it obvious this is my first time doing this?)
52 The crew that fixes your work computer
54 You have a right one … (see 14 down)
56 First lady
57 Kind of a jerk
61 Historical periods
62 "All right, Mr. DeMille, I'm Ready for my close-up." film
63 Rave
64 Art school in Providence
65 Monkee ____ Jones

## DOWN

1 Current
2 What Scotty did up
3 Be someone's gym buddy a 2nd time
4 A great place to see space rocks in Toronto
5 Woody Allen mockumentary
6 A laser manufacturer
7 Q _ _ _ U
8 Technology that makes Scantron possible
9 A great place to see butterflies in East Texas
10 Mythical cycle in Norse mythology (alt. sp.)
11 _____ marry me? (2 wds)
12 Grey skies are gonna _____ (2 wds.)
14 … and a left one (see 54 across)
15 Pair of -OH groups
18 Even a little bit of
24 Appointed by the court, as a guardian

25 Just __ __!
29 Ivanka's bro
30 A kind of neural tissue
31 "Hometown Proud" grocery chain
32 Help!
34 "I don't know…"
35 Monsanto specialty
36 Type of police dog
37 ____ Shah Pahlevi
38 Planet with a string of pearls
39 Your cat's might be infected
43 90's vocal group The _____ Girls, known for their skill at extracting ore
44 Aussie lassie

45 2010 indie platformer starring Captain Viridian
46 Smurf with a chef's hat on
48 Blue
49 Items that were conspicuously hard to find in 2003
50 Economized
53 ____while (former)
55 Pixar's Remy, for example
58 Germ., Fr., Bulg., etc.
59 First nurse, in a Roman manner of saying
60 My status as **gridMASTER** for the next issue

| SUN SEPT 9 | MON SEPT 10 | TUE SEPT 11 | WED SEPT 12 | THU SEPT 13 | FRI SEPT 14 | SAT SEPT 15 |
|---|---|---|---|---|---|---|
| | | | | | | |

| SUN SEPT 16 | MON SEPT 17 | TUE SEPT 18 | WED SEPT 19 | THU SEPT 20 | FRI SEPT 21 | SAT SEPT 22 |
|---|---|---|---|---|---|---|
| | math**NEWS** 138.1 production night. New writers welcome! | National bring the math**NEWS** editors pizza day | Last day to add courses for Fall 2018 / FEDs campus life fair | | math**NEWS** 138.1 published | |

# SOLUTIONS

| A | B | R | O | | Z | E | R | O | | | H | R | W | C | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | E | E | S | | E | K | S | M | D | | M | A | I | L | |
| P | A | S | C | | A | L | S | T | R | I | A | N | G | L | E |
| E | M | P | | | R | I | P | | O | N | S | N | L | A | |
| R | E | O | | | G | L | A | D | L | Y | | A | Y | R | |
| E | D | T | | | A | D | O | | | E | R | O | U | | |
| | | | G | I | S | | L | I | E | G | R | O | U | P | |
| | | A | L | G | O | R | I | T | H | M | I | C | | | |
| J | U | L | I | A | S | E | T | | H | O | C | | | | |
| U | R | S | A | | Z | E | S | | | S | V | G | | | |
| P | E | A | | | S | W | A | M | P | S | | H | V | R | |
| I | T | E | A | M | | E | A | R | | E | V | E | | | |
| T | H | I | R | D | D | E | R | I | V | A | T | I | V | E | |
| E | R | A | S | | S | U | N | S | E | T | B | L | V | D | |
| R | A | N | T | | R | I | S | D | | D | A | V | Y | | |

*The Editors*

# mathNEWS DISORGANIZATIONAL MEETING

math**NEWS** is like an old friend. It shows up, pretty regularly, every other Friday; makes you laugh, cry, and scratch your head trying to solve puzzles; and then says, "See you in two weeks!" Best of all, you can take it into class, and let it entertain you there, and your professors won't care. Heck, sometimes they read it while teaching.

Now, math**NEWS** doesn't just appear magically; it is put together by a very tight-knit group of writers, artists, proofreaders and glorious editors.

If you are interested in helping out with math**NEWS**, you should come to our disorganizational meeting sometime at the beginning of September. Send us an email at mathnews@gmail.com to learn when this is happening. Also feel free to stop in on one of our Production Nights (we post posters in the stairwells on production nights), check the door to our office (or come in if we are there!) at MC 3030, or email us at mathnews@gmail.com.

All of us here at math**NEWS** are always looking for new writers, proofreaders, artists, puzzle-writers, and general whathave- yous. Everyone who helps out gets to party with us at our end-of-term bash, and eat lots of pizza with us (not that sixteen slices makes you feel good two hours later... but whatever).

*The Editors*

mathNEWS