**lookAHEAD**

**mathNEWS**

May 30
Issue 2 cracks eggs and spills sugar

June 9
Issue 3 is placed in the oven

June 13
Issue 3 is thrown on cooling racks

**CECA**

June 2–20
Employer interviews, main group

**University**

June 9
Online course exam schedules available on Quest

June 10–14
Spring 2014 convocation

**Miscellaneous**

June 3
Repeat Day

June 3
Repeat Day

June 8
Best Friends Day

June 9
Donald Duck Day

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*Founded 1973*

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Murphy Berzish (Fruit Cream), Katherine Tu (Tea Biscuit), Rachel Wiens (Oreo), Jose-Miguel Velasco (Double Chocolate Chip)

**mastHEAD**

We’ve heard talk in the last few days about certain groups that are having a very bad problem and will not go to the bank today. We have the opposite problem: we have found ourselves wondering just what to do in order to make use of some excess capital. We went down the list and managed to cross off a few ideas in the process.

- Gold-plating every issue of *mathNEWS* for the rest of the term proved unfeasible when SketchED threw his back out carrying twenty copies down to the Davis Centre. We also blew up the forklift while getting them out of the print shop.

- We wanted to make a giant castle out of lemon meringue, but could not find an architect willing to help us with the plans. (“Collapsing under its own weight,” *shmo*-llapsing under its own weight—I still insist that it would have been perfectly safe.)

- Those giant gummy worms mentioned several volumes ago were sold out.

- Providing math research funds to encourage writers to produce “higher-quality math-inspired content” was met with volleys of tomatoes and other assorted fruits.

- Paying people to read *mathNEWS*.

- Out plan to provide all incoming undergraduate math students with their first-year textbooks for free fell short when engagement surveys revealed that no one actually uses textbooks, even when they don’t have to pay for them.

- We had neither the interest nor the time to buy out Black-Berry.

Failing that, we did just what we usually do when we run out of ideas: we asked the writers to decide for us. Okay, writers, what would you like for free instead of pizza during Production Night?


ScruffyED (“Solutions to instances of NP-Complete Problems.”)
**Sweet and Sour**

So it’s spring, you’ve been here a while, and you’re worried that you won’t graduate. How can you ensure that you do?

Well, it depends on how bad things are. In most cases, the following are sufficient:

1. Reduce your course load. In most plans, you do not need to be enrolled in 5 courses a term.
2. Attend class. If you are going to classes, you have a much better probability of academic success.
3. Do your homework, eat right, exercise…
4. Make sure you get out and have fun. There is a world outside of MC, M3, and DC. I’ve been there; just don’t try any math jokes—they don’t get them!
5. Go to office hours.

However, in extreme cases, when things are really not going well, you may want to consider the following:

6. Use the Riley Backup Plan or RBP:
   - Start and finish a general degree. This means that even if you are in CS or another plan that does not require certain courses like MATH 225/235, do them to ensure you complete the Honours fall-back provision (i.e. MATH 136/106, MATH 137/127, MATH 138/128, MATH 235/225, MATH 237/207/229/239, CS 115/135, CS 116/136, STAT 230/220 and STAT 231/221).
   - Next, complete Math Studies. Essentially this means working on 10 third and fourth year math courses (which include any courses in the Faculty except COMM and MTHEL).
   - Finally, simultaneously work towards a minor in another field outside of the Faculty, like economics.

Why is this a good plan? Well, if you fail out before finishing the general degree, you have already started working on a minor in another faculty. As a result, it may be easier to switch to that faculty. If you fail out while working on Math Studies and have therefore finished the general degree, we can probably get you that general degree. If you fail out of a plan while working on Math Studies, we may be able to get you into Math Studies. The goal is to have something in reserve in case things do not go as planned.

If you have trouble, please see an advisor. As always, we want you to SOAR!

Riley Metzger, Katie Kent, and Nancy Orvis-Korn
mathadvisors@uwaterloo.ca

**Office Gossip #1**

**Call for office workers**

Hello there, math students! My name is Darcy Alemany, and I am the new Office Services Manager at the Mathematics Society. Did you know that MathSoc runs an office on the third floor of MC with a bunch of awesome services? We have photocopying and printing services, both in black and white and colour (for cheaper than anywhere else on campus)! There are computers you can use to browse the Internet, to print, or to access office software. We have plenty of staplers, as well as a pencil sharpener and a binding machine. The Office sells calculators, stationery, and MathSoc novelties, all at cost. There is also an information desk to get answers to all of your questions about MathSoc or life as a math student—not to mention that we have free candy, usually a different variety each day!

The MathSoc Office is also a great opportunity to get valuable volunteer experience. Each term, we look for hard-working and dedicated office workers to staff the desk and keep the office open and available all day. Full training is provided, and you will have all the support you need to be successful. This is a great opportunity to meet new friends in the Faculty, learn more about MathSoc and UW Math, as well as get a great experience to add to your résumé. If you are interested in becoming an office volunteer, please email me at office@mathsoc.uwaterloo.ca. You will find a new Office Gossip every mathNEWS, where I will share with you all the new things happening in the MathSoc Office each and every week. I hope you join us!

Darcy Alemany
MathSoc Office Services Manager

**A Challenge To Readers**

The following information is a given: a baby born at 34 weeks has 99% chance of survival, 95% at 30 weeks, 90% at 27 weeks, and 85% at 26 weeks.

On average, the probability of having twins is 3.3%, the probability of having triplets is 0.013%, and the probability of having quadruplets is 0.000142%. Suppose these numbers are slightly higher for this problem, at 4%, 0.1%, and 0.001%.

Given only one woman, how much time would have to pass before there’s a 95% chance you have had at least 1000 babies?

If any of you are bored enough to attempt this challenge, feel free to send us your finished or unfinished solutions in the BLACK BOX!

Yours in statistical-ness,
Shay Blair.
What?

By now, all Canadian citizens who reside in Ontario—and really, anyone who resides in Ontario—should know the date June 12th. That is the date of the next provincial election. Ontario Premier Kathleen Wynne’s called an election on threat of defeat of her 2014 budget, so here we are.

Who?

What is important is that on June 12th, everyone who is a resident of Ontario, over 18 years of age, and a Canadian citizen goes out and votes.

Why?

The 2011 Ontario general election had a record low turnout of 49.2%. When you don’t vote, it threatens the legitimacy of our government. It also puts more power in the hands of special interest groups. Students traditionally have very low turnout rates. This means politicians spend little time on our demographic and we are likely to be sidelined from the political process. If we go out and vote, politicians will be forced to consider our needs. Students need to come out and vote.

If you need more motivation, consider that there is currently a 30% rebate on university tuition. Some parties, in their platform, pledge to remove this. This is an issue which directly affects students.

How?

Elections Canada has made every possible affordance to allow all Canadians to vote. If you’re a student, you can either vote in your home riding (provided it is in Ontario of course) as long as you have some form of ID showing your address.

Vote in the Provincial Elections!

Getting proper ID is easy! You can bring your driver’s license if it has your voting address on it. You can also bring your student card or OHIP card, plus some document showing your local address. This includes a utility bill, credit card or bank statement, lease, or even get a letter issued from your university residence. As a last resort, you can have another registered voter with proper ID vouch for your residency. Elections Canada has a complete list of valid IDs on their website.

Where?

The Federation of Students has additional information about voting on campus at www.feds.ca/elections/. There will also be an advance poll station in the SLC on June 4th and 5th. If you can’t vote on the 12th, you can vote in the advance poll. In addition to voting, you should also inform yourself about the candidates. The major parties all have platforms available online, but there are also local debates.

If you have a time machine you can go watch the candidate debate on May 28th in the SLC. Otherwise, fear not, there is a debate on June 2nd from 4 to 6PM at the Waterloo Rec Complex (across Waterloo Park). Also, if you’re living elsewhere in the region, there are debates for the Kitchener-Center riding on May 28th from 4 to 6PM in the Kitchener City Hall Rotunda and for Kitchener-Conestoga on June 4th from 4 to 6PM.

No?

If none of the candidates pique your fancy, you still should go vote. You can decline your ballot. Upon receiving your ballot return it to the Elections Canada official at the polling station stating you decline to vote. This ballot is counted separately from spoiled ballots. This is a legal right defined under section 53 of the Elections Act.

“But I’m not registered to vote!” Don’t need to be ahead of time. You can turn up at the advance poll or on election day and vote. All you need is identification and proof of address—ID and some document like mail or a lease with your name and address on it.

There you go. If you want to vote in Waterloo: ID, lease, and show up.

If you want to go home and vote, or mail a ballot home you can do that too.

If you don’t want to vote: suck it up, educate yourselves and vote. Our future actually does depend on it because our 30% tuition refund could find itself on the chopping block.

PS. dbro’s article is more informative
Bad Math

The Banach-Tarski “Paradox” is frequently used as an example of the fact that math is nonsensical. This is because the Banach-Tarski Theorem contains several conditions which are not mentioned when the layperson states the paradox. When these conditions are included, it becomes simultaneously much more confusing, and much less weird that it is true.

**Condition 1:** We are dealing with the usual 3-dimensional Euclidean space. On the surface, this seems fine. However, the space differs in several important ways from reality, on which our intuition is largely based. Most importantly, the usual 3D Euclidean space is infinitely sub-dividable. This means that we can consider an uncountable collection of points, each with zero volume, but all of them together have a non-zero volume. This is important since it means the theorem is dealing with a space which does not agree with intuition. Thus, we should mistrust what we believe intuitively about it.

**Condition 2:** The Axiom of Choice is true. This axiom is used to divide the ball in 3D space into a finite number of pieces, each of which does not have a properly defined volume. Again, this differs from reality due to the face that you cannot create something without a coherently defined volume. The intermediate pieces in the Banach-Tarski Theorem do not have a well-defined volume, and are created by applying the Axiom of Choice. Unsurprisingly, the pieces are not explicitly constructed in the proof, so we don’t really know what they would “look like”.

With this two conditions, it makes a lot more sense why something like the Banach-Tarski Theorem can be true. It is dealing with circumstances that do not behave as intuition would suggest, so a seeming paradox can be created.

Meaningless Quips

Misadventures in Sexual Economics

The past two articles (”More sexual economics” on Page 7 and “Sexual economics 101” in last issue) have been quite a bit of fun for me to write. I like applying the economic framework to sex and seeing what explanatory power you get from it. This is a classic case of "economics imperialism", which itself has a Wikipedia page that’s quite fun to read.

As I mentioned in the first article, all of the content was taken from Marina Ashdade’s book Dollars and Sex. Unfortunately, shortly after the publication of the first article, the library recalled it from me, thus depriving me of the chance to renew it forever and ever as I do with other books. I can only assume someone out there has it, perhaps someone who reads mathNEWS.

On the one hand, this is flattering. On the other, it’s too bad; I wanted to re-read the section on education and marriage, which covers among other things why Western societies do not have polygamy anymore, even though they have large wealth disparities and rich men probably have enough influence that they could get it to happen. It also talks about shifting marriage prospects for those with multiple degrees, which is relevant for me as I will be in school forever.

So I have a proposition for you, dear whoever took out that book: read it, and write up what it says about sex and education for mathNEWS. I would enjoy it, as would our readers (who, the editors tell me, actually do exist).

Dear everyone else who did not steal my book: Unfortunately, I won’t be able to make another instalment of this series as I had hoped. But I’d still be curious as to how you think I did! Writing about sexual economics is a very touchy (pun, tended) subject. Was I insensitive about it? What could I have done better? Do you agree with the findings of this analysis? Or, to open the floodgates, how can this language of sexual economics describe your own experiences?

tesseract

Trains

As it so happens, UW offers a course on trains. The course is a wonderful place to learn about all the upsides to trains by attempting to drive them. You’d think driving a train is easy, or at least simple, and yes it is! It’s as easy as connecting an ARM board to a train, and turning it all on!

Before starting the course, there are a few things you should know about trains. First, trains generally run on rails, and when they don’t, something is usually very wrong, but that shouldn’t ever be a problem for you, because you’re never going to have to worry about derail-ing them. (As a side note, multi-track drifting is very impressive and should be attempted.) Second, trains can’t stop or start quickly, which is especially concerning when they look like they’re going to collide. Don’t worry, because it’s only the trains trying to troll you. They’re pre-programmed to not collide with each other, but to get really close to it to scare you, and make you think that you’re not driving them correctly.

Once you’re taking the course, try to spend as little time in the lab as possible. There are a lot of people who try to take the course and they’re highly likely to try to use the trains when you want to. Ergo, spending very little time in the lab means you’ll get the trains when you need them. Keep in mind that this room is in MC, so you probably want to show off your significant other by bringing them into the lab. Then you can impress them with your train driving skills, and it’s a great date location when you need to knock out those last few lines of train code.

All in all, the trains course is a wonderful place to meet people, and to learn even more about trains. I highly advise taking the course, 5/5 would take again.

ChooChoo
Non-Transitive Dice

Just when you thought that probability could not get weirder, a mathematician with too much free time on his hands invents non-transitive dice. What are non-transitive dice? Suppose for a moment that you have three six-sided dice, named A, B and C; you roll A and B, comparing the value of their rolls, then, on average, B wins (i.e. gets higher rolls). If you roll B and C then, on average, C wins. If you roll A and C, on average A wins.

Here is an example of a particular set that satisfies this:

A: 1 4 4 4 4 4
B: 2 2 2 5 5 5
C: 3 3 3 3 3 6

The set above has a rather interesting property. Suppose for a moment that you decide to roll two dice instead of one. Then the cycle reverse itself, i.e. AA > BB > CC > AA.

Then there the grime dice. This is a set of five non-transitive like the following:

Red: 4 4 4 4 9
Yellow: 3 3 3 8 8
Blue: 2 2 7 7 7
Magenta: 1 1 6 6 6
Olive: 0 5 5 5 5

There are two cycles in these dice: Red>Blue>Olive>Yellow>Magenta>Red, which is ordered according to word length, and Blue>Magenta>Olive>Red>Yellow>Blue, which is in alphabetical order. If you doubled up these dice, then the word length cycle reverses but the alphabetical cycle stays the same, with the exception of the Olive and Red dice, where they have almost equal probability of beating each other.

With this set up, as long as you can pick whether you roll one or two die, you can always pick a die such that when playing with two different players simultaneously you will on average have a better chance of beating both opponents.

Now if you will excuse me, I need to find the nearest 3D Printer. I have something I need to print.

The Princess Bride

Life Lessons

Despite being released over twenty years ago, there are many life lessons in The Princess Bride that are still applicable today (apart from getting involved in land wars in Asia—who does that these days?). Here are some that may serve you well:

• If you need henchmen, make sure they can swim. The doggy paddle doesn't count as a proper stroke.
• If you did something right, don't let it go to your head.
• Get used to disappointment—in life, in love, in co-op placements.
• There's not a lot of money in revenge; consider your future co-op term offers wisely.
• Life is pain. Anyone who says differently is selling something.
• It may be unwise to build a summer home in the Fire Swamp, but the trees in there are actually quite lovely.
• If you haven't got your health, then you haven't got anything—don't forget that there is more to food than free pizza and energy drinks.
• If a person is all dead, there's only one thing you can do—go through his clothes and look for loose change. Oh, and call the police.
• True love is the greatest thing in the world—except for a nice mutton, lettuce and tomato sandwich, where the mutton is nice and lean and the tomato is ripe. When mutton is scarce, bacon makes an excellent substitute.
• If you've been mostly-dead all day, your arms may not move right away. It's best to have some friends around who can carry you.
• Mawwiage is a bwessed awwangment, a dweam wifin a dweam, …and true wuv will fowwow you fowever, so tweasure your wuv.
• Death cannot stop true love; all it can do is delay it for a while.
• If you don't know what to do with the rest of your life, consider piracy.
• (something about Robin Wright, Princess Buttercup → Clare Underwood?)

Problems Google Can Solve

• How to find web pages.
• How to spell words.
• How to stalk people across the internet.
• How to send drunk emails to your ex.
• How to watch cat videos.
• How to get satellite pictures of your crush's house.
• How to drive cars.
• How to see stock photos of pregnant women eating salad.
• How to join a social networking site used almost exclusively by Google employees.
• How to solve the burning questions that pop into your head in the middle of the night.

Problems Google Can't Solve

• What a headbutt with your face is called.
• When you're trying to think of a word but you can't remember anything about it
• What the name of a song is when you don't know the lyrics
• Where your phone is lost in your room.
• Time travel.
• Where you've seen that person you just met who looks really familiar before.
• What the name of the person you met 10 seconds ago is.
• How to make American politicians not be idiots.
• Why I can't believe it's not butter.

BlueberryMuffin
More Sexual Economics

The article on sexual economics that I wrote for the last issue was intended to be first in a series. One sentence there referred to promiscuity on university campuses, and specifically what sexual economics has to say about it.

So, as per usual in economics, this is all about supply and demand. Now we just have to figure out what the supply and demand are in this case. Sadly, as with most surveys and statistics, we assume the gender binary (i.e. that people are either female xor male) and heteronormativity (i.e. that everyone is heterosexual).

But how much demand is there? Well, young adults enjoy having sex [citation needed]. Young men and young women, in fact, both enjoy having sex, roughly an equal amount. Yes, you read that right. An equal amount. It is naturally hard to measure these things, but that appears to be the case. Women (on average) enjoy and want sex just as much as men do, and are as happy or even happier when they have it. (Again, these are broad averages. Remember that people should be treated as individuals, remember that some people are asexual, and please just don't assume any particular person is interested in sex.)

So, if demand is roughly equal, what's the big deal? Shouldn't everyone pair up happily, with everybody's amount of sex determined by the gender ratio of their university?

It turns out that demand is pretty equal among men and women, but supply is not. That is, men are much more willing to have sex with a random woman than women are to have sex with a random man. This is not surprising, but the experimental evidence to confirm it is both hilarious and brilliantly straightforward: volunteers of each gender (normalised for attractiveness) were asked to go around campus, and asked people scripted questions, including “Will you have sex with me tonight?” Over 50% of men approached in this way agreed; no women did. In another study, respondents were asked, “What is the minimum length of time you would want to know somebody before you had sex with them?” Men's average response was on the order of days or hours; women's was on the order of months.

To overgeneralize some more from these studies, the results are that men want sex quickly and with just about anybody, whereas women want to wait and make sure it’s with the right person. When we consider the “cost” of sex as the amount of time invested in a relationship before having sex (a terribly crude measure that is used only for this simplistic explanation, meant to have nothing to do with money and only used because of the existing language of economics), then, men are willing to supply sex at a low “cost”, whereas women only want to supply sex at high “cost”.

Now that we have the basic determinants of supply and demand in this equation, how do they interact?

First, consider a situation with few men and lots of women. (This is typical of most university campuses.) As noted, both men and women want to have sex. Ideally, women want to have some length of time in a committed relationship before having sex. But since men are scarce, and want to have sex quickly, a woman who sets too long a time-frame may “lose” to another woman who is willing to wait slightly less. Since the market is flooded with women, the “cost” in terms of time and commitment men are willing to pay has decreased. This leads to a situation where, to have any sex at all, women are forced to engage in riskier behaviour than they would want. This makes promiscuity and one-night stands more common on campuses with a high ratio of women to men.

On the other hand, consider a situation where men outnumber women. (This is the case at Waterloo; 57% were men in 2013, according to Maclean’s.) Men and women want to have sex. But women want to have a long, serious relationship before they will consider having sex. But by waiting longer or asking more commitment, a woman has a higher chance of avoiding jerks or otherwise undesirable men, and she will still (if she wants) be able to have sex. Limited supply has increased the “cost” in our market analogy. This means that when people do have sex, there’s less likely to be risky behaviour involved.

This analysis leads to the neat, counter-intuitive conclusion that for prudish parents concerned about their children's promiscuity, the best choice is to send their kids to a school with more men than women, regardless of their gender. It also explains why universities in general have a reputation for parties and lots of sex, but that Waterloo seems to be an exception to that rule. On that note, I’m gonna go do math now.

tesseract

Disclaimer: As I’ve said many times, this is an average over populations, and nothing here is representative of any individual. People are wonderfun and distinct and different and are not statistical averages. Please, never, ever think in terms of these averages for anyone you’re thinking of having sex with. And don’t assume they’re interested. Talk of time investment as “cost” of sex may have some merit as a tool for economic analysis, but it is not a cost in a traditional sense, and “paying” it should not be interpreted as being owed sex. Consent means anyone can refuse sex at any time. You are not entitled to have sex with anybody, ever. Not even statistically.

The above disclaimer really should not be necessary.

Submit your profQUOTES, grid and challenge solutions, hatemail, love letters, and spam to the BLACK BOX on the third floor MC!
How To Interview Like A Boss

It is once again interview season, and I’m back with a slew of awesome interview tips that are 100% guaranteed1 to give you an edge over the competition. Follow these tips and you will have more offers from all the big companies than a stripper has daddy issues.

1. Be a BOSS

The first rule of interviewing like a boss is, unsurprisingly, to be a boss. There are several ways to be a boss, but all of them boils down to one simple end goal: be in command, be in control, and assert your dominance over your interviewer. It doesn’t matter if you’re a boss or not, you just have to come off as one.

To be the boss, you must own the room. On the day before the interview, go into the room of the interview and urinate in it. Do it on the chairs, the table, the whiteboard, and anything else that is significant. This marks the room as your territory and while your interviewer may not realize it consciously, it will give you a subconscious advantage.

In addition, act like a boss during the interview. Compliment your interviewer on how great a job they are doing, and hint at a possible promotion and salary raise for them in the future. Make small talk and ask about how their children are. Talk about how great the company party was last summer and how this year’s will not live up to it. You get the idea.

2. Be Prepared

Without doubt, you’ll want some knowledge about the company before the interview. The best way to do this is to hire a private investigator and have them look into the company. However, being poor university students, you probably can’t afford one, so you’ll have to do it yourself. The specifics on how to be a sleuth is beyond the scope of this guide, but make sure your noir filter is on, you have a fedora on, and make sure you invest in a pipe.

N Things I Love About Jacuzzis

Gotta love them penthouse suites.

• It goes great with bubble bath!
• The warmth is very welcoming as opposed to the coldness that you’re usually greeted with at swimming pools
• NO CHLORINE
• They’re more or less private
• They’re the perfect thing to help you relax after a hard day on your feet (it’s basically an all-body massage but with water)
• Depending on the size, they’re practically hot tubs and are perfect for sharing in the relaxation!

When looking into the company, you’ll want to dig up as much as possible: what they do and what kind of technology and tools they use; who founded the company, and whether their offspring is single; what it is like to work at the company, and whether it is acceptable to poop in their urinal. The usual stuff.

3. Follow Up

After the interview, make sure you follow up with the interviewer to show that you care. This is usually done by email, but that’s not enough to set yourself apart from the crowd. No, you need to make it much more personal than that.

If you followed #2 correctly, you should have the personal information and schedules of every employee for the company, including your interviewer. Make an effort to surprise your interviewer at events where they least expects it, such as their kids’ soccer games, and remind them how much you appreciate the opportunity. Also, remember to give them another copy of your résumé, just to be sure they have it.

If they are from somewhere far away such as the U.S., you’ll have to resort to adding them on Facebook, following them on Twitter, and of course, connect with them on Linkedin. Use social media to remind the interviewer how much they mean to you and how they are a very important part of your life.

Good luck.

theSMURF

1Not actually 100%, more like 99.5%. Or 10%. I don't really know how to do calculus.

The Fundamental Theorem of Extrapolating Wildly

Theorem. If P is a proposition function on elements in D, then if P(d) is true for at least 3 distinct d in D, then P(d) is true for all d in D.

Proof. P(d1) is true.
P(d2) is true.
P(d3) is true.
Aaaaah, you get the point. ■

e.g. If P is a proposition on primes, P(2) and P(3) and P(5) together imply P(p) for all primes p.

e.g. \([-1\cdot1\cdot0],[2\cdot1\cdot1],[1\cdot1\cdot1]\)×\([2\cdot1\cdot1],[3\cdot1\cdot1],[1\cdot0\cdot1]\) = I3.

Well,
(-1*2) + (-1*3) + 0(2) = 1, and
(-1*1) + (-1*1) + 0(0) = 0, and
(-1*1) + (-1*1) + 0(1) = 0.

So by the FTEW, since three entries match up, the rest do too.

{butterflygirl}
A Reminder That You Should Do Fun Things In Life

Recently, I volunteered for something called MusicFest Canada, held in Vancouver. If you haven't heard of it, it is “North America's largest annual event dedicated to developing young musical talent,” amongst other things (visit www.musicfest.ca for more details). I was an “Audio and Recording Technician,” which meant that I pressed buttons and made sure that all of the performances and adjudicators were recorded properly, but I did my share of running around and helping out with other things, too. I learned a lot of neat stuff, and gained experience in a field in which I haven't had the chance to work, so in this regard, it was a great thing to do.

One very interesting part of the volunteer experience is that I was able to meet and get to know all of the other volunteers (in part because we barely had enough volunteers to make the week go smoothly); it may be because of who I am, but I feel like I am better off having met these thirty-plus wonderful people, not to mention all of the fabulous adjudicators and other people with whom I crossed paths. This is something that I won't regret doing, because of how much fun I had, and because of the friends I've made.

Which leads me to the point of this article: amidst the trials and tribulations of the university student life, between the ten midterms and six finals and two essays and a stupid number of assignments all due on the same day, embroiled in new or botched relationships and the struggle to find both love and co-op jobs, one should never forget to take some time out of the daily grind to do something novel and fun. Whether it’s going on an excursion with friends, volunteering at something new and exciting, going to a convention for the first (or the $n^{th}$) time, or something spontaneous like a concert or a professional sports game, it’s probably worth doing, solely for the experience of doing it. Well, mostly, anyway. (Disclaimer: does not include doing illegal or stupid things! Use your common sense.)

It's really easy to get stuck in the routine at university; it’s highly rewarding to break the routine, and get out and do other things. Admittedly, I still struggle with this at times, but I think I'm getting to the point where I don't feel like that much of a hypocrite anymore when I say things like the following: life is highly rewarding to break the routine, and get out and do other things. Whether it’s going on an excursion with friends, volunteering at something new and exciting, going to a convention for the first (or the $n^{th}$) time, or something spontaneous like a concert or a professional sports game, it’s probably worth doing, solely for the experience of doing it. Well, mostly, anyway. (Disclaimer: does not include doing illegal or stupid things! Use your common sense.)

都觉得你应该做有趣的事情

你不会真的相信他们吗？他们在随机网站上流行，并且向你承诺一个更轻松的未来。我那时候是高二，我觉得这很有趣，尽管我并不真的相信。但是我可以告诉你，之后的许多年，为什么会有这么多的陷阱依然存在。也许有些九年级学生和我一样，认为他们在欺骗我。毕竟，我是一个聪明的人，不是吗？我不会被这些愚弄。但是，不是我，而是这个骗局被愚弄了。我没有像傻瓜一样做任何事情。这在某种程度上是因为我被一个新朋友欺骗了。他试图让这件事变得温柔，但它只是我在此之前完全不相信的事情。他不能让任何事发生，事情发生后，他试图让它变得温柔，但它只是我在此之前完全不相信的事情。

但在那个时候，我需要说服我的父亲。他可能不会相信，但它是一个真正的提醒。我相信这些广告仍然是欺诈性的。他们仍然是垃圾和骗局。因为，如果我必须去看广告，我更应该看到一些美好的广告。所以我以自己的方式，当我在谷歌上搜索广告时，我可能会去参观一些最喜欢的品牌网站。还有一些，无论是否是合法或愚蠢的事情！使用你的常识。

成功

但最终，我需要说服我的父亲。他可能不会相信，但它是一个真正的提醒。我相信这些广告仍然是欺诈性的。他们仍然是垃圾和骗局。因为，如果我必须去看广告，我更应该看到一些美好的广告。所以我以自己的方式，当我在谷歌上搜索广告时，我可能会去参观一些最喜欢的品牌网站。还有一些，无论是否是合法或愚蠢的事情！使用你的常识。

重要的原因

你有所有你想做的事情吗？你有你想要拥有的东西吗？你想要在艺术风格上看到的东西吗？艺术可以以你想要的任何方式来实现。你想要的艺术，以及你想要看到的艺术风格。它是一种自我表达。你不能点击“立即购买”按钮。这还不够，甚至有一个证书的合法性。购买这个巧妙的装置不会让你摆脱电费账单，但它会赚取你的电费账单。这真是一个美妙的想法！在经过十分钟的视频（因为有些原因，它没有播放、暂停、音量或跳过按钮）后，我已经呈现了一页充满了来自以前的不信者到现在的信服者。如果那不是一个足够让我相信的，这个网站甚至有一个证书的合法性。我不能点击“立即购买”按钮。这还不够。

但是，我需要说服我的父亲。他可能不会相信，但它是一个真正的提醒。我相信这些广告仍然是欺诈性的。他们仍然是垃圾和骗局。因为，如果我必须去看广告，我更应该看到一些美好的广告。所以我以自己的方式，当我在谷歌上搜索广告时，我可能会去参观一些最喜欢的品牌网站。还有一些，无论是否是合法或愚蠢的事情！使用你的常识。

Good2Talk (1-866-925-5454) is a free, confidential, and anonymous helpline for post-secondary students in Ontario!

N Reasons You Should Commission an Artist

Waldo had fun at Artists' Alley at Anime North!

• You get the opportunity to have exactly the kind of image you want to own, and in the art style you want to see.
• You get to own art that NO ONE else will ever have.
• You get to do whatever you want with that art you have purchased (frame it, copy it, colour it, etc.) based on your agreement with the artist you have commissioned.
• You support an artist directly for the work they have done.
• You pay the exact amount of money you feel an artwork is worth as opposed to potentially overspending on a print.
• You have ALL THE SQUEE when you see the art that you purchased and it looks even better than you imagined!

Scythe Marshall

waldo@<3.LE-GASP.ca
Beer and Counter-Beer

I am personally not a fan of drinking games. I understand their appeal, but for me I feel that the drinking should not be the focus of the game. Also, I feel that too many drinking games have "take a drink" as a punishment for doing poorly or being defeated at something. Taking a drink should instead be a reward.

For example, Beer and Counter-Beer (BCB) Risk. In newer Risk games, the cards you pick up at the end of your turn if you took a territory have stars on them. A player can then turn in the cards at the beginning of their turn for more troops. In BCB Risk, a player can drink as much beer as they like as the game is in progress, but if someone takes your territory, you must drink. They can use empty beer bottles as "stars" to add to their star count and receive even more troops. This is a "Beer." However, other players can use their empty bottles to decrease your star count. This is a "Counter-Beer." So it you have five stars in cards and three empty beer bottles, you could get eight stars worth of troops. But if another player Counter-Beers you two empty beer bottles, you only get six stars worth of troops.

From this, we see that having empty beer bottles is a goal and coupled with the territory drink, then bottles should accumulate faster for a winning player. But drinking more gets you drunk! So you'll play worse and maybe start losing!

How about BCB Monopoly? A "Beer" can be given to the bank to reduce a rent payment by $100. A "Counter-Beer" given to the bank could increase the rent by $100. Again, players can drink as much as they like, but would have to drink every time they receive a rent payment.

BCB Poker: Take a drink every time you win a hand. Can bet empty beer bottles as if they were money (Beer). Can use multiple empties to cause a re-deal mid-hand (Counter-Beer).

BCB Darts: Take a drink every time it's your turn to throw. Use a beer bottle for a re-throw (Beer). Can throw you empty beer bottles at other players when it's their turn to throw (Counter-Beer).

The possibilities are endless!*  

*Stubbs and mathNEWS are not liable for any injury or death allegedly caused by readers attempting any of the activities mentioned or not mentioned in the article above. I mean, what are you thinking? Throwing darts and glass bottles around and expecting nobody to get hurt?

On The MathSoc Candy Jars

A hungry contribution

Coke bottles once a month  
My favorites—always gone  
Candy gods, why so cruel?

Haiku4Food

Russian Reviews: War Thunder

Tokyo Drift: Tread to Rights

The rank of T-34s thunder across the field. Artillery, rockets, bombs, and shells land amongst them. Guns blazing, they disperse into the hills and valleys to begin hunting. Panzer IV’s lurk amongst the trees, darting from cover to cover, looking to pick off an unfortunate opponent. Heavy tanks and tank destroyers proudly display their high-impenetrable armour and fire massive guns into the enemy ranks. Overhead, aircraft dog-fight while bombers and attack craft engage ground targets, as naval vessels bombard the shoreline and each other.

War Thunder is an interesting idea of a match-based ‘WWII arena fighter’. Whether in the air, on the ground, or upon (or under) the ocean, you use your collection of war machines to destroy the enemy team and capture points. The tech-tree progresses from pre-war biplanes and early tanks to late and post-war jet craft and main battle tanks. What makes this game different from the similar World of Tanks and World of Planes is that the action includes all aspects of land, air, and sea, with multiple vehicles being brought into a battle that you can ‘re-spawn’ into (although there is a “simulator battle” mode that only allows you one vehicle, with more realistic view restrictions, movement/physics, damage to systems, etc).

Sadly, the game is still in open beta after a year and a half, tanks only having been recently added and naval vessels likely another year away. The tanks included aren’t even fully balanced, and are only for two nations. The other three nations are without a tank to use, and apparently tanks are so buggy that they cannot be played alongside aircraft. Still, progress is being made, and given some more time the bugs will be fixed, ships will be added, and some very large and interesting battles will take place. In the meantime, enjoy hilarious Soviet light tanks performing continuous miracle drifts all the way around enemies until one of them dies.

If you are interested in epic air or ground combat that is slowly being improved upon, head to warthunder.com or Steam to grab the game for free.

Soviet Canadian

N Ways Quitting League of Legends Improved My Life

• I no longer stay up to 1AM trying to win my promotion series.  
• I actually finish assignments instead of "after this game."  
• The hair I pulled out in frustration has grown back.  
• There’s fewer people telling me they’re having sex with my mother.  
• My left arm now has the same strength of my right arm.  
• The only time I see the word "legendary" is when I’m playing Pokemon.  
• I am no longer 14.  
• The last time I heard "meta" was in a CS course.  
• No one AFKs when I drive in the middle lane.  

EI
The Walls Are Lavender

Lavender is a flower, and when you crumble it in your fingers your hands smell nice. You can also put lavender on food. Take a pinch of lavender and sprinkle it onto a fresh (or thawed) dead baby before popping it into the oven. It really brings out the flavour. And hey, you've got 1000 babies now, so the only left to do is acquire some lavender. Other seasonings that work very nicely with the lavender garnish are chamomile, clove, and lemon.

If you raise your own babies, make sure they're fresh when you go to cook. If you don't have time, you can also acquire them at your local supermarket, usually frozen. Ensure they are thawed before preparation.

For best results, put them in the oven for an hour and a half at 325°F. This will create a succulent taste, keep in the juices, and give a nice pink tinge to the meat. You can also barbecue them the same as you would a steak.

For the true outdoors feel many crave, the suggested method is to roast them over an open campfire. Singing songs to Satan is optional but recommended for an authentic experience.

Yours in cooking advice,

Shay Blair.

Not Trains

Trains. Trains are my life. They've taken up all of my time since the beginning of term. But now, I'm doing mathNEWS, a bunch of mathNEWS. I keep writing and sitting here, hoping my Trains partner doesn't come and tell me that something is broken. Every moment I don't spend in the lab makes me more and more paranoid. I fear each breath I draw outside the lab will be my last.

Life has become a caffeine-fulled nightmare of trains. Caffeine is my sleep substitute, because sleep isn't Trains, and I don't have time for anything that's not Trains. Trains have been the only thing that I can think about, they're so hard to not think about. If a train leaves Waterloo travelling at 40km/h and another train leaves Toronto travelling towards Waterloo at 80km/h on the same track, will the trains crash, or will they avoid collision? I'm never sure, because trains seem to behave like Schrödinger's cat, not crashing and crashing at the same time. But maybe that's just the Trains track, and not real trains?

The trains don't move, or they do, but only after praying and crying and staring at them longingly, but then they don't stop moving once they are. And the trains troll you, they never move the way you want them to, because they speed up and slow down however they feel like. I swear that the prof picked trains because they never work the way you expect them.

Help me.

StuckInTheTrainsLab

Bunker Down

One of the many joys of childhood we are expected to abandon as we mature is the blanket fort. For some reason, people think that cannibalizing the blankets, sheets, mattresses, couches, cushions, and curtains of one's home in order to construct an impromptu fortification is childish. The fact of the matter is, making blanket forts is not too immature for adults. Rather, it is too sophisticated a field to be dominated by children.

Any hack can drape a blanket over two or three couches and call it a fort, but true artistry requires more skill, ingenuity, and duct tape than is typically feasible for a child. If we judged the world of visual art by the fingerpaintings and crayon doodles of toddlers, it too would be deemed too childish to be respected. Because the field is dominated by youngsters, those with a true talent and potential are laughed away from this noble profession. Imagine what masterful works of blanket fortitude could have been realized if Frank Gehry or even Leonardo da Vinci had devoted themselves to this field.

So, dear reader, I challenge you to fight the system, stand up to status quo, and throw so called “maturity” to the wind. Dismantle your bed, disassemble your couches, and turn them into something more. A duvet Helm’s Deep. A flannel Fortress of Solitude. A couch cushion Camelot. Something wonderful. Something majestic. Something to be truly proud of.

N Adventures at Anime North

Jacuzzi fun times!

So Anime North was last weekend, and as always, it was a blast. Interesting panels were visited, great shows and costumes were viewed, and cool things were purchased. Some things that happened include:

- Got upgraded to a penthouse suite for free! (Woot, jacuzzis!)
- No lines for badges!
- No lines for all but the largest, most anticipated events. (Awww yeahhh.)
- Insane levels of cosplay (including that one guy...)
- Anime Hell and Totally Lame Anime! (Where various terrible shows and ads are made fun of.)
- Awesome panel about Canada in anime!
- The 404s late night show (where improv and pants do not meet).
- Amazing art in Artists’ Alley (now Artists’ Corner?)
- Some great deals on amazing things in the Dealers’ Room.
- Meeting old friends, who are now scattered across the country.
- Ending the days by showing roommates what we purchased and saw.
- Enjoying the extreme levels of adorableness and KAWAIIIIIIII~

This and so much more took place this year, and hopefully will happen again next year.

Soviet Canadian
**Study: Absentee mathNEWS Writers More Productive**

In a groundbreaking new study, researchers have found that mathNEWS writers who create content while not actually at Production Night are in general more productive than those who attend, in terms of number of articles written.

For years, writers observed that while they were encouraged to write articles at Production Night, they were constantly distracted by other writers either commenting about their own articles, or about meaningless and unrelated points of (dis)interest. Now, however, there is statistical evidence that this isn't just a perceived issue; it's real. And it's serious.

Writer notbob and the current author have not been to a Production Night in many months, and they have been rock solid contributors, having averaged more than one high-quality article per issue. Writer Beyond Meta recently contributed two articles as opposed to the usual one, while being unable to attend the fortnightly gathering.

While the sample size may be small, note that second-year stats tends to be pretty useless, so we'll just say that the number of writers is also small and make good use of our handily available tin foil hats. Who's to say that this isn't actually true, hm?

As well, there is evidence that the bribery of writers with pizza, cookies, soft drinks, and milk actually decreases the productivity of writers. Many writers only complete one article before the end of the writing period, and only in order to "earn" their free food afterwards. Some writers don't even finish their articles, and have to get back to writing after the pizza break. This is clearly related to the supply of free food, not to mention the distraction that is the writing period of Production Night. Editors have acknowledged fear that if it is indeed proven to be a causal relationship, that is, free pizza causes fewer articles, it may be the case that the Production Night system may have to be revamped, which would place an undue amount of stress on the backs of the editors, not to mention that it would be too much effort.

The researchers intend on performing a follow-up study, to fully confirm these results, and to investigate the possibility of an issue of mathNEWS being printed whilst containing more articles from writers who are not currently on campus (or even attending the university).

Scythe Marshall
mathNEWS' 1000 Blank White Cards

The Early Days

In the beginning, there were blank cards. This made a tanuki and a dragon very displeased and was widely regarded to be in great need of fixing. And on the infinitely partitioned canvas the tanuki made the green rupee\(^1\), wherein the dragon then made a way to discard it away\(^2\). And the tanuki said, let there be more written cards; and so there were. And the dragon then said, let there be chaos: and there was Chaos\(^3\). And the tanuki saw the chaos, and said that it was good, and divided it from the blank cards to form the basis of the first deck. And the pair said, let there be rules in midst of the chaos, and let it govern the method of play; and so draw one and play one was law. And the tanuki and dragon made more cards, widening the gap between the order of blankness and the chaos of the game, and saw to it that it was good. And the tanuki declared that to win one needed 100 points, and it was so.

From the Elysian garden of thought and theory the deck was cast away to the masses of mathNEWS, where the deck gained an author to play. Issues were had as the imperfect design foresight was brought to light, some of which are codified as cards in the deck themselves. Power to the Masses\(^4\) caused a shortage of cards as it required someone to draw 25 cards when there were only 24 cards in the deck and discard, which caused The 25th Card\(^5\) to be created to solve this impasse. Games would not terminate as nobody could get enough points because chaos and destruction were the norm as opposed to constructive gain.

But flourish the deck did in these burgeoning days of youth. Points were a part of the genesis of the deck, but other integral features which shape the deck today popped up in this time period as well, such as symbols (with the Inflation\(^6\) card, courtesy of a certain dragon) and considerations and/or designations (although it wouldn't gain that name for quite some time, first referenced in Randomness (A)\(^7\), also courtesy of a certain dragon). The stack became a necessity as cards could be played outside of the player's turn, and this was the first of a plethora of keywords, starting with Anytime, and the long-held tradition regarding the confusion that dealing with the stack persists even to present day (as a Counterexample\(^8\) to the hypothesis that every move on to its next phase in development.

There were problems as well—some cards were seen as too powerful or didn't work in the game's framework as intended and had to have errata, but all in all, the game at this state wasn't too complicated quiet yet, at least compared to what it has become today. One can claim that the early days come to a close when the player base of the game decided that 100 points is too many points to win the game and decided that the default win condition, unless people disagree at the beginning of the game and suggest another agreed-upon alternative, is to have 50 more points than the next player with the points. By that point, the game's cards have developed a reasonable economy themed block and a burgeoning mythical creatures block\(^11\) as the game moves on to its next phase in development.

To be continued,

Zethar

WELCOME TO THE FOOTNOTE LABYRINTHE:
\(^1\)At least, this is what we believe is the first card. It gives whoever plays it 1 point.
\(^2\)This card, certainly my first card, was a card that discarded any cards with the letter “a” in it, designed so that it didn’t have an “e” in it because someone threatened to make a card which did the same for “e”. It wasn’t the second card in the game for sure, but it might as well have been. The card was later amended to discarding all cards in play with an “a” in it, and very briefly in the short-lived mutable cards period had the word anytime on it. More about that in a future article if I remember.
\(^3\)A card; my second, in fact. A hefty card weighing in at 113 words long, it did lots of things and generally confused people a lot. This was a foreboding warning as to what was to come soon after.
\(^4\)This card involved counters and symbols (with the Inflation card, courtesy of a certain dragon) and considerations and/or designations which shape the deck today popped up in this time period as well, such as symbols (with the Inflation card, courtesy of a certain dragon). The stack became a necessity as cards could be played outside of the player's turn, and this was the first of a plethora of keywords, starting with Anytime, and the long-held tradition regarding the confusion that dealing with the stack persists even to present day (as a Counterexample to the hypothesis that every move on to its next phase in development.
\(^5\)This card referred to dragons.
\(^6\)This card involved counters and themes (with the Inflation card, courtesy of a certain dragon). The stack became a necessity as cards could be played outside of the player's turn, and this was the first of a plethora of keywords, starting with Anytime, and the long-held tradition regarding the confusion that dealing with the stack persists even to present day (as a Counterexample to the hypothesis that every move on to its next phase in development.
\(^7\)This card involved counters and themes (with the Inflation card, courtesy of a certain dragon). The stack became a necessity as cards could be played outside of the player's turn, and this was the first of a plethora of keywords, starting with Anytime, and the long-held tradition regarding the confusion that dealing with the stack persists even to present day (as a Counterexample to the hypothesis that every move on to its next phase in development.
\(^8\)This card referred to dragons.
\(^9\)If you don't know what this theme is, you are more similar to this reference than you would like to be.
\(^10\)The most common way a winner is declared in a game of 1kbwc. Hurrah!
\(^11\)The two biggest blocks in the game at present day. In fact, the mythical creatures block is so big it got split into no fewer than three blocks, all courtesy to a certain dragon. However, that tanuki was also pretty responsible for them as well.
This Week's Grid:

Athematic, but less than a sixth black! Sorry about 66A; I mistook it for a commoner word. Special thanks go to Jinny for her company and some clues.

Out of eight submissions, only one was perfect. The prevailing error was “I” instead of “E” in square number 64, which resulted in STASIS for STASES (“45. States of motionlessness” clues a plural word, after all) and the archaic INISLING for ENISLING (“to enisle” is, quite literally, to put on an island). Despite some funny answers to last issue’s grid QUESTION (“Why are there ants in my laptop?”), like Rob’s “Nothing is certain in science” or Jasmine’s “The hardware is buggy”, there is no tie to break. So sorry, you two, and sorry, Abraham, Daniel, Michael, Reila, and Travis—because the winner is Ramesh! Congratulations, Ramesh! You may pick up your prize at MathSoc.

Submit your grids to the BLACK BOX (by the Comfy Lounge on floor 3 of MC) by 18:30 on Monday June 9th. Include your name and your answer to this issue’s grid QUESTION—the spookiest answer decides the winner (of a $5 C&D gift card) in the event of a tie: “Why does the lamplight flicker?”

Cheers,
unit

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<tr>
<th>Across:</th>
<th>Down:</th>
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<tbody>
<tr>
<td>1. 315nm ≥ λ ≥ 280nm</td>
<td>1. Make like a waking snake</td>
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<tr>
<td>4. Mel Kaye’s employer</td>
<td>2. Short and sacred</td>
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<tr>
<td>9. Spin a spoon</td>
<td>3. Borscht basis</td>
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<tr>
<td>13. Largest joint</td>
<td>4. The real ______</td>
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<td>14. Clavi (calluses)</td>
<td>5. Front of the eye</td>
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<td>15. Cultivated plant</td>
<td>6. White and moldy</td>
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<td>16. .4 hectares</td>
<td>7. Intermezzo</td>
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<td>17. Finding faults</td>
<td>8. Electrospray ionization</td>
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<td>21. ___ and downs</td>
<td>10. Greater Cincinnati, e.g.</td>
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<td>22. My favourite’s lemon meringue</td>
<td>11. An or cat go-with</td>
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<td>23. Optic orb</td>
<td>12. Rocket-propelled grenade</td>
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<td>24. Last Supper guest</td>
<td>13. χ</td>
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<td>28. Sacrificial stone</td>
<td>18. Limit</td>
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<td>30. Freddy Jones Jr.’s neck accessory</td>
<td>20. Lima’s land</td>
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<td>32. To be ill</td>
<td>25. Coral unit</td>
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<td>43. Man-price</td>
<td>26. Readily</td>
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<td>45. 96 more lines than NTSC</td>
<td>27. Ultimatum ender</td>
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<td>48. Archaic abyss</td>
<td>29. Endure</td>
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<td>50. Moo moo mammary</td>
<td>31. Hourglass guts</td>
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<td>54. Mass for the dead</td>
<td>34. wow such clue</td>
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<td>56. Sounds like 47A</td>
<td>36. Easternmost province (abbr.)</td>
</tr>
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<td>58. Mr. Needles</td>
<td>37. Fancy flagon</td>
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<td>59. Cinerary pottery</td>
<td>38. The ______ and yellow leaf</td>
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<td>60. They take part</td>
<td>39. Back-stories</td>
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<td>63. Pawn, e.g.</td>
<td>41. The first modern one began in 1896</td>
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<td>66. Nipa palm leaf thatched roof</td>
<td>44. What cardio kills</td>
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<tr>
<td>67. Popular apple</td>
<td>46. Personified breeze</td>
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<td>68. Sphere of women</td>
<td>49. Mime Marceau</td>
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<td>69. Authorizes</td>
<td>51. Calorie counter</td>
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<td>70. German Lizzie</td>
<td>52. Corrigenda</td>
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<tr>
<td>71. Pastoral poems</td>
<td>53. Coarse files</td>
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<tr>
<td>72. Mesozoic, e.g.</td>
<td>55. She-bears</td>
</tr>
<tr>
<td>33. Rid of dirty dishes</td>
<td>57. Stuff</td>
</tr>
<tr>
<td>35. Pillar men</td>
<td>61. Hawk house (var.)</td>
</tr>
<tr>
<td>37. Glimpse</td>
<td>62. Kind of wild cabbage</td>
</tr>
<tr>
<td>40. Bee barf</td>
<td>64. Kirby’s creators</td>
</tr>
<tr>
<td>42. Singer Dobson</td>
<td>65. ϕ</td>
</tr>
<tr>
<td>46. What cardio kills</td>
<td>66. Nipa palm leaf thatched roof</td>
</tr>
<tr>
<td>47. Sounds like 56A</td>
<td>67. Popular apple</td>
</tr>
<tr>
<td>48. Archaic abyss</td>
<td>68. Sphere of women</td>
</tr>
<tr>
<td>49. Mime Marceau</td>
<td>69. Authorizes</td>
</tr>
<tr>
<td>50. Moo moo mammary</td>
<td>70. German Lizzie</td>
</tr>
<tr>
<td>51. Calorie counter</td>
<td>71. Pastoral poems</td>
</tr>
<tr>
<td>52. Corrigenda</td>
<td>72. Mesozoic, e.g.</td>
</tr>
</tbody>
</table>