*math*NEWS

Don't worry, it's only a flesh wound.

*look*AHEAD

*math*NEWS

May 31	Issue 2 dabbles in some black magic.
June 10	Issue 3 summons writers from the abyss.
June 14	Issue 3 releases its book of spells.

MathSoc

May 31	Deadline to submit council applications.

CECA

June 21	First cycle Job Rankings open (Main)
June 24	First cycle Job Rankings close (Main)
June 26	Second cycle Job Postings open (Main)
June 27	Second cycle Job Postings close (Main)

University

May 31	GLOW in the Dark Bonfire

Misc

June 16	Father's Day
June 21	Summer Solstice

Exec Sez

The end of the first month is approaching! Time is flying by so fast this term. A couple of quick updates:

- Our budget has been approved! In record time too!
- We are partnering with Orientation and the Dean's Office to provide calculators to first year students as part of their Orientation kits. This will include a new screened calculator to replace pink-tie stickers.
- We're still looking for volunteers for the office- sign up for an office hour on the website. We are really looking for people to staff the office Tuesday/Thursday mornings (at peak assignment stapling times).
- We'd love to renovate the Comfy and get a new locker system, but we are in need of volunteers who are interested in coordinating this. Email `prez@mathsoc.uwaterloo.ca` with suggestions or if you want to get involved in the process.

*mast*HEAD

Here at *math*NEWS, we like to pride ourselves on our pizza ordering abilities. Throughout the terms, we've come up with a solid formula [ceiling (number of people/3)] to make sure we do not order too much or too little pizza for our starving writers. However, due to a sad but beautiful ordering mistake, our most recent Production Night ended with too much pizza for even our hungry writers to consume. In an attempt to deal with this unprecedented event, we asked our writers, "What is the best way to deal with extra pizza?"

Element118("Is this even possible?"), InsideVoice("Grad student bait"), DanInTheHat("Send it to the Big Oven In the Sky"), Ice Nine("Use for 3D food modelling"), waldo@<3. LE-GASP.ca("Feed it to Woof or have someone else find it!"), Soviet Canadian("Share it with your glorious comrades"), Beyond Meta("FOOD FIGHT!"), MuffinED("Biological experiment"), yourlocalWHETHERgirl ("Create art"), Scythe Marshall ("Distribute it fairly amongst the clubs. Oh wait, are there even clubs anymore?"), Unit ("Drop it on the floor"), Grumpy Old Fart ("The same thing we do every production night. TRY TO TAKE OVER THE CSC!"), MoGlo ("Origami"), GingerbrED ("Feed sick editors"), ScruffyED ("Shoot it with my anagramming gun and Instagram my razz tea pix."), Big Mak ("Bottle it into the world's best-smelling perfume.")

Disclaimer: extra pizza went to our hungry, hungry editors. No pizza was wasted in the making of this edition.

Sweet and Sour - Choosing a Plan

Welcome to the spring term. If you have 10 completed and passed courses under your belt, it is now time to pick or change your plan (sometimes called a program). In either case the process is the same:

1. Visit the Math Undergrad Office in MC 4022 and pick up a Plan Modification (Plan Mod) form. It's pink.
2. While there, have a look on the same wall for advising hours for the plans you want to join. If you have any additional plans you may have to visit other undergrad offices, such as Arts in PAS 2439 or Science in ESC 253.
3. Complete the top half of the form, and sign it.
4. Take the form to the plan advisors in the plans you want to join. They will tell you if you can join their plan.
5. When you are done visiting all of the advisors, walk the form to the second floor of Needles Hall.

If you are adding a secondary plan, you still have to visit your current plan advisor.

Please note that this decision is not final. If you wanted you could get admitted to program X today and sign a new form for program Y tomorrow.

Happy Planning!

<div align="right">

Riley Metzger
`mathadvisors@uwaterloo.ca`

</div>

Math FEDS Councillor Sez

Good morning, afternoon, evening, to those that are REAL or IMAGINARY (oh well, we're all COMPLEX after all)! We've enjoyed our first month as councillors for 2013-14 and we have some updates we'd like to share you and we'd love to hear your opinion on a few items. Thank you for taking the time to read this article.

News and updates:
- Bomber Patio is now open, come hang out and enjoy the nice weather (we swear, sunlight is actually good for you)!
- There are several at-large positions on Feds Committees (External Advocacy Review, Internal Administration, Internal Advisory, and Budget). This is a great way to get involved with both Feds and the University as a whole. You can find out more at: `http://www.feds.ca/employment-section/volunteer-opportunities/` (or feds.ca → Get Involved → Job & Volunteer Opportunities → Volunteer Opportunities). The meeting for selecting these positions is June 9th at 12:30pm in the SLC multipurpose room.

Tell us what you think:
- Council has taken an interest in developing an exam policy. We want to ensure we capture what your concerns are, whether they be exam scheduling, verification of illness, or policies on viewing past exams; so please let us know your thoughts!
- Not only is Jobmine being replaced, so is its name! The proposed name is WaterlooWorks, and CECA is looking for any and all feedback: `http://bit.ly/19vavx8`
- Keep an eye open for our survey which is coming out soon, or email us your response:
  Which of the following is the most relevant and pressing issue right now?
  - Exams (scheduling, discipline, grievances, relief, etc);
  - Housing (costs, location, availability, quality, etc); or
  - Use of Learn (classes requiring use of external software that could be handled by Learn).

You can share your opinions, let us know any concerns, find out when we're doing feedback events, or anything else really through our Facebook page: `http://www.facebook.com/FedsCouncilMath`, or by emailing any of us.

Feel free to come say hi or partake at the next Council meeting on June 9th at 12:30pm in the SLC multipurpose room.

Lastly, we leave you with our bi-weekly, amazing, and math-tastical, joke:

Interesting Theorem: All positive integers are interesting.

Proof: Assume the contrary. Then there is a lowest non-interesting positive integer. But hey, that's pretty interesting! A contradiction.

Stéphane Hamade, Elizabeth McFaul, Jesse McGinnis, Prashant Kumar Patel, and Febrian Sidharta.

WatSFiC Sez

Hello, Mathies! WatSFiC (the Waterloo Science Fiction and Fantasy Club) is continuing to meet and host events every week.

Our various schedules are:

- We are running a book club on REAMDE by Neal Stephenson this term. If you want a copy of the book, you can come to this Wednesday's meeting with $10 to join a mass ordering, which should have slightly cheaper prices. You are free to participate if you already have the book, or can obtain it on your own.
- We will be hosting another HvZ event this term, tentatively for the week of July 8-12.
- We will be hosting bi-weekly movie nights, where we show really good and really bad Sci-Fi and Fantasy movies. We showed Ghost in the Shell and Steamboy for our first movie night, and our next movie night will be on Wednesday June 5.
- We host bi-weekly Games Days, where we meet in the Math C&D every other Saturday to play board games. Next one will be Saturday June 1 (tomorrow) at noon.
- RPGA (for roleplaying games like D&D) every Friday at 7PM, in MC2017.
- FNM (Friday Night Magic, for those interested in Magic: the Gathering) every Friday at 6PM in MC2034. This week's events are sealed and standard.
- General meetings every Wednesday at 6:30PM in PHYS 150. Fun times and important topics are had. Frequently ends in a tournament bracket–figures from the realms of Science Fiction and Fantasy are gathered and pitted in fights to the death, to see who will come out on top.

If you are interested in getting more information (for instance on the movies we decide on, RPGs people are starting, etc.), sign up to our mailing list at `http://www.watsfic.uwaterloo.ca/contact`.

We hope to see you at some of our events,

Daniel Resnick
WatSFiC Minister of Propaganda, S13

Games Sez

Everybody loves board games, right? If you do, show up to the Math C&D* on Tuesday nights after 6:30 PM and play games. Also, there will be snacks and drinks freely available to participants. So show up, play games, and snag some free food. It's also a great way to socialize and have fun with other people, for those who enjoy that sort of thing.

* Third floor of the MC, one of the two big rooms along the south corridor

DanInTheHat

Send us your Sez's at *mathnews@gmail.com*. We would love to print them!

Interactive Fiction Review: "Counterfeit Monkey" by Emily Short

Released by well-known interactive fiction (sometimes known as "text adventures") author Emily Short on December 31, 2012, *Counterfeit Monkey* is a challenging and fun adventure with a very unique mechanic that provides for some of the most satisfying puzzles I have ever seen. The author introduces the game as follows:

"Anglophone Atlantis has been an independent nation since an April day in 1822, when a well-aimed shot from their de-pluralizing cannon reduced the British colonizing fleet to one ship. Since then, Atlantis has been the world's greatest center for linguistic manipulation, designing letter inserters, word synthesizers, the diminutive affixer, and a host of other tools for converting one thing to another. Inventors worldwide pay heavily for that technology, which is where a smuggler and industrial espionage agent such as yourself can really clean up. Unfortunately, the Bureau of Orthography has taken a serious interest in your activities lately. Your face has been recorded and your cover is blown. Your remaining assets: about eight more hours of a national holiday that's spreading the police thin; the most inconvenient damn disguise you've ever worn in your life; and one full-alphabet letter remover. Good luck getting off the island."

I won't say any more than that. I'm deliberately being vague about who the protagonist is or what exactly they're trying to accomplish; telling you outright might ruin the fun of finding out! Thus, throughout this article I'll only refer to specific examples from the game when absolutely necessary here. Passing over the plot summary, we arrive directly at the review…

The game world is a real treat to explore and discover. The setting is rich and detailed; it is possible to examine and interact with everything mentioned in every room description, and you will often see unique messages for certain objects when examining them for the first time that prompt you to "remember" moments from your past, which help round out the protagonist's backstory and provide information that would be too unwieldy to present otherwise. The story itself is an espionage tale told over about one hundred rooms that span the city of Atlantis; there are many NPCs to interact with, most of which can react to your actions (such as the officer during the protest scene) or carry on conversations with you (even non-story-relevant ones). The presentation of the story flows naturally and smoothly, giving a good balance of puzzles and plot. The conversation mechanic, however, is rather weak; the game essentially presents you with options to choose from during dialogue and is forthright in, effectively, telling you how to play, e.g. "[I want to] ask whether [that item] is for sale" or "[I want to] tell him the truth". Yes, this does give the player hints on what phrases will carry on the conversation, but this feels less like meaningful interaction and more like "Press X to Plot". I feel these scenes could have been replaced with zero-input (canned) conversations without taking much away from the feel of the game. However, the conversations are unintrusive and relatively short, so this may not bother you at all. On a similar note, I was a bit put off by one sequence where the game gave me the illusion of having control over a particular scene (i.e. accepting my commands), but then surprised me with the announcement that someone else would be controlling my actions during this sequence and that I could not do anything except "wait" several times in a row until I regained control. But this is a minor detail; the story and setting are both extremely well-written, well-researched, and well-developed, and it is easy to get lost in one's mind's eye in the world of Atlantis.

The puzzles are the meat of this game, and there's a lot to like. It's no surprise that *Counterfeit Monkey* has been called the "Portal" of interactive fiction, and it certainly lives up to this name. Your basic implement of orthographical manipulation is your full-alphabet letter remover, which is capable of deleting all instances of a single letter from the name of any object you can see. If the word you get after doing this is the name of another object, then that object is the one you end up with instead of the original one. Make sense? Here's an example, taken from the game's very first puzzle, for you to try at home. You're standing in a courtyard with a real estate office and a museum. In the window of the museum is one of the current exhibits, a codex. A high metal fence blocks your progress to the next area, although there is an door in the fence that could be opened if only you had the correct code. You have your letter remover in hand, and can set it to remove any letter you wish. Now how will you get past that fence? The answer is in the next paragraph, cunningly printed upside-down.

That codex should be giving you an idea. Set your letter remover to the letter 'x'. Use your x-remover to delete the 'x' in "codex". Now you have a "code". Use the code to open the door!

And that's just the first of many, many word manipulation puzzles. Getting a grip on this mechanic and trying to decide which letter to remove in order to make the object you want (or, equally as often, which object to start with) will be crucial to your success in achieving your goals. For such an abstract mechanic, the majority of the puzzles were fairly intuitive, and I found it a fun challenge to discover new letter removals and the objects they would create, and then see how those objects could help me make progress. As the story advances, you gain access to a few other letter tools that expand the range of nouns you can create, and naturally, the puzzles do get quite challenging, but this is mitigated somewhat by the fact that there are plenty of objects to find with interesting names ripe for wordgames. Multiple solutions almost always exist, so it's possible to get creative if you're stuck, and in fact I ended up developing an intuition for solving the puzzles (none of that "rope + banana = fishing rod" nonsense, thank you). There are one or two late-game puzzles that struck me as potentially unintuitive and "sticking" (in particular, I insist that a certain puzzle can only be solved by accident, as you have no way of knowing ahead of time the result of using an item you find), but even with the large array of tools you gain access to and the vast set of possibilities to explore, you should still have a good time puzzling your way through — provided you have a decent grasp of the English language and a thing for wordplay (you may find it helpful to know what a homonym and a diminutive are, among a few other things, and a wide vocabulary will definitely not hurt).

Counterfeit Monkey is a fantastic game, although I would not necessarily recommend it to you if it would be your very first experience with interactive fiction. Get some practice with other

games that provide a more gentle introduction to the genre, then pick this one up when you're feeling confident. I played it in a single, dedicated sitting and was able to win in about six hours. For experienced players, this game rates a "Tough" on the Cruelty Scale, meaning that while it is possible to get stuck and/or get an automatic game over, if you are paying attention it should be obvious when this would happen after your next action. Save, and save especially before walking into certain areas unprepared, but don't feel the need to save compulsively otherwise. Almost all letter manipulations can be undone freely. Speaking of "undo", due to the way state is handled in this game, the interpreter you use may not be able to support the "undo" command, so check for its presence before you get too far!

I've given you enough words today; the game will certainly give you many more to think about. Go puzzle it out with *Counterfeit Monkey*, and join me next time for something completely different: an introduction to one of the "B-movies" of interactive fiction, and how to make it into one of the funniest adventures ever written…

Counterfeit Monkey is available for download at `http://emshort.com/counterfeit_monkey/` (download the Story File, and find an interpreter you like on your own; I recommend Gargoyle, which should be available for most operating systems and does a good job with the graphical map, but anything supporting the Glulx format should work).

ScruffyED

New PMath, Phil Courses Announced

In a quiet announcement last week, two new courses starting in Fall 2013 were announced, to be taught by newly graduated students. All employers that could be found for PMath and Phil graduates reported a lack of hubris among recent graduates. In a characteristically quick response, the University commissioned two courses designed, one for Pure Math and one for Philosophy. These courses, put in the second year with tentative course number "283", are only open to and required for their respective majors.

Current plans for the course material are various ways to act condescending to other faculties, and how to believe that your own program is clearly the best. Tentative subjects to be covered include cognitive dissonance, the inability to admit flaws, confidence unsupported by ability, and complicated argumentation.

InsideVoice

Primetime News in Mathematics
Math puns, math puns everywhere!

Two of the coolest, oldest unsolved problems in mathematics have been greatly advanced over the past couple of weeks.

The twin primes conjecture proposes that there are infinitely many pairs of primes that differ by only two. The Annals of Mathematics received a paper related to this subject on April 17, and just three weeks later, the author received the refereed report on his paper. The paper was written by Yitang Zhang, a professor at the University of New Hampshire. Prior to this, Zhang was relatively unknown in the mathematics research community. After he received his doctorate in 1991, he found it difficult to get an academic job, even resorting to working at Subway. Zhang presented his work to a packed audience at Harvard University on May 13.

The same day that Zhang was delivering his lecture at Harvard, a paper was posted online that settled another question relating to prime numbers. The paper was posted by Harald Helfgott of École Normale Supérieure in Paris and proved the weak (or ternary) Goldbach conjecture. The weak Goldbach conjecture asserts that every odd integer greater than five is the sum of three prime numbers.

Although Zhang didn't fully prove the twin prime conjecture, it proves a landmark theorem in the distribution of prime numbers. Zhang's paper shows that there is some number N smaller than 70 million such that there are infinitely many pairs of primes that differ by N. While this may seem like a long way from proving that there are primes that differ by two, it shows that the distribution of primes is bounded. No matter how astronomically huge prime numbers grow, prime pairs that differ less than 70 million can be found. By the way, the largest known pair of twin primes is $3\,756\,801\,695\,685 \times 10^{666669} \pm 1$.

Helfgott, however, has claimed to have unconditionally proven the weak Goldbach conjecture. The paper published on May 13 was the second of a pair that claimed to improve major and minor arc estimates sufficiently for an unconditional proof. It is interesting that his proof is for all odd integers greater than five, while earliers attempts only proved the result for numbers greater than $e^{3100} \approx 2 \times 10^{1346}$.

Even though these conjectures have no known applications, they're still pretty cool.

El Jengibre

fig 1. cyclic groups
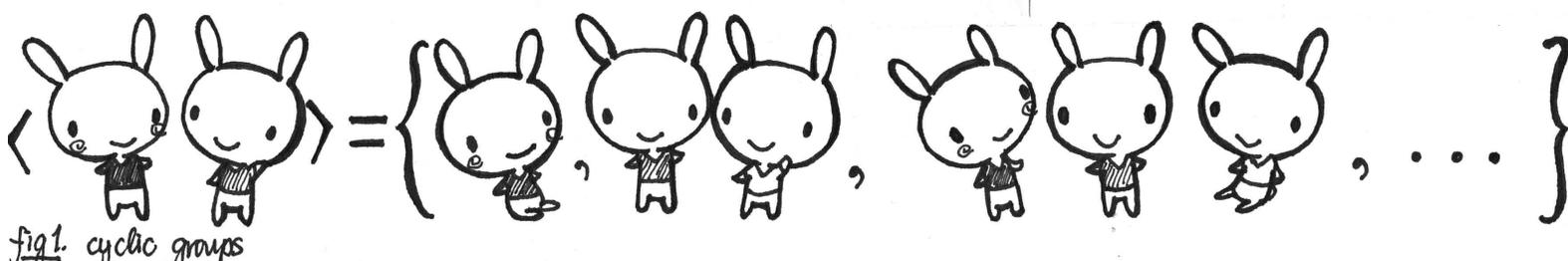
Sinister

A movie review for the weak of heart

I can count the number of horror movies I've seen in my life on the fingers of one hand, so you can imagine my uncertainty when my roommate suggested watching a scary movie this weekend. To make things worse, he insisted on waiting until dark, turning off all the lights, and refusing to tell me what movie we were watching so I couldn't look up the synopsis beforehand.

When the title screen came on, I almost lost my nerve and gathered up my fuzzy socks and fleece blanket to head back to my room. Only the thought of future ridicule, and the fear of extending my foot over the edge of the couch seat kept me in my place.

While I only saw maybe about 85% of the movie because my head was firmly under my blanket for the other 15% percent, I can still offer you a fairly honest and well-informed review. From just a fear factor perspective, this movie definitely filled my quota for the next couple of years. Even when my head was under the covers, the music was so terrifying, it took serious guts to peek my head back out, especially during the last ten minutes. I screamed, pretty girly screams too, at every opportunity and the spooky, decaying children aspect was definitely the worst part.

As far as the non-scary bits go, Sinister also offered some spooky and interesting history on Sumerian deities as well as an excellent example of the consequences of not communicating with your spouse and children. Additionally, I now firmly believe in fully researching the owner history of houses before moving in.

wibz

How Not to Flirt With a Girl

Being a girl in math, I've had my share of guys flirting with me. And I must say, some guys are really bad at it. So here are some things that you should NOT do when trying to flirt with a girl.

- Sneeze on her.
- Ask her to move in with you before even asking for her name.
- Whistle at her when she's walking or running down the street.
- Try to cuddle with her before asking for her name.
- Tell her she's pretty when she's in the middle of a sentence completely unrelated to her appearance.
- Ask her for her phone number and email address before asking for her name.
- Tell her you're falling in love with her before asking for her name.
- Tell her she looks like a Christmas elf.
- Try to kiss her when you're drunk at a party. Especially if she's one of your sister's best friends.
- Try to talk to her when you're not wearing pants. Try to talk to her when she's not wearing pants.

Sylvia MacIntyre

Russian Reviews: Metro 2033

Welcome to the Metro

Donning my gas mask, I set my watch. I only have a few minutes before my old filters are used up, and the poisonous air kills me. The fresh corpse at my feet is a warning and a blessing. The bite marks tell me of large mutants nearby, but the few shotgun shells he had in life will help me now. My flashlight is dim, so I start to crank it. I think about what I will do when I reach the next station. I have a decent amount of military-grade bullets which I can trade for an armoured suit. I wonder if anyone there will help me as I turn a corner, where a shout and a gunshot meet me.

In the world of Metro 2033 you travel through the remains of the Moscow Metro, one of the world's largest and deepest train systems which had been equipped with fallout shelters during the Cold War. These shelters were used when a nuclear war wiped out humanity from the surface of the earth. Now the remnants of humanity are trapped in the Metro, scavenging what they can from the irradiated and mutant-covered surface.

Fighting monsters and humans alike, you travel across Moscow trying to find help against a supernatural enemy that threatens to destroy the warring Station-cities that hold the last of humanity. With limited ammo and home-made weapons you must sneak and fight your way through the dangerous ruins of Moscow, where bullets are currency and lives are short.

For those who want a well-made post-apocalyptic FPS, find Metro 2033 (or its recently released sequel) on Steam.

Soviet Canadian

Adventures from our Fourth Year Design Project

- We're working with existing codebases. Originally the code was spread over multiple CVS, SVN and Git repositories. Fortunately, we've migrated everything to Git.
- Working with somebody else's code is challenging, especially when the original authors did not really care about maintainability.
- Some of our tests require a lot of memory. 8 GB is usually enough for almost all of our tests. But there was one that used up 55 GB of memory before I killed it.
- Some of our tests take days to run. There's one test that's been running for almost two months now.
- Some of our worker processes stopped responding, so we attached a debugger. Turns out OpenSSL has a deadlock.
- We have a tool that generates Java code for a given test case. One test case required giving the JVM 8 GB of memory. The tool then spat out 262 MB of Java code.
- When we tried compiling the generated code, we discovered that Java has a 64 KB limit on method sizes.
- We modified our code generator to use multiple methods. Now Java complained with "too many constants." Turns out we had more than 64K of literals, identifiers, references, etc.

!bob

How To Be Intimidating
From someone that is apparently not.

- Smiling is apparently not allowed.
- Be less interesting.
- Be more interesting.
- Put hair up with knives (careful, don't cut your hair).
- Always speak in past tense.
- Have black hair.
- Wear lots of red.
- Wear leather in general.
- Ride a motorcycle (without a helmet!).
- Look like Scar.
- I didn't choose the thug life, the thug life chose me. Fo shizzle.
- Wear necklaces that look like they can kill.
- Have more hair in your face.
- Cornrows (sometimes).
- Talk like Nolan's Batman.
- Get appropriate tattoos and piercings.
- Wear black Louboutin shoes with red soles.
- Reproduce by fission.

yourlocalWHETHERgirl

Exercise is Tiring
You don't say? —GingerbrED

Yesterday, I had the pleasure of visiting the CIF gym for the first time, and today I have been having the pleasure of hurting every time I move my body. My gym experience was probably pretty standard but it was all so new that I found everything fascinating.

There were around 40 people there, which I thought was a pretty impressive turnout (I've definitely never seen 40 people at a *math*NEWS production night), until I was told that there can be up to 100 people there during busy times. 100 sweaty, grunting people all in one place. I can't even picture it.

There were some interesting outfits, from very, very tight, booty-hugging shorts to a bright yellow floor length skirt. I felt pretty bizarre, after pulling out my running shoes for possibly the second time in memory, and putting no thought to making my outfit match. I had some neon pink, bright red, orange, and purple going on in a bright and eye-searing medley.

The fact that they have launder-able washcloths and disinfectant to wipe up after sweating on machinery is actually adorable. And I was vastly amused by the trainers walking around encouraging other gym rats as they tried to lift obscene amounts of weight.

Despite going home and making white chocolate marshmallow fudge to cleanse the working out residue from my person, I quite enjoyed my working out experience. Even the feeling of sore muscles is rather pleasant in a painful sort of way. Will it happen again? Still undecided.

wibz

Russian Reviews: OFF
The world will be purified

A few weeks ago while browsing Tumblr, I came across a decent amount of fanart for a small surreal French indie game called OFF. Curious, I grabbed the translated version of the game and dove into the strange world of OFF.

In this land where the four elements are smoke, plastic, metal, and meat, you are assigned to assist "The Batter" in his sacred quest to purify the world of spectres. While unsettling music and enemies filled the game, I questioned the meaning of many things, such as just who/what the Batter was, why the spectres existed, and how the society in this world maintained itself amongst the constant attacks from ghosts.

I really do not want to spoil any of this game for anyone, as I believe it is something that should be experienced, not told. If you are a fan of surreal (and sometimes a little unsettling) traditional-style RPGs and have 6-ish hours to kill, I would suggest you download this little French gem from the StarMen forum (for the translated version).

Soviet Canadian

Good and Bad Ways to Deal with Anger

University life can be pretty stressful and sometimes you just snap. Sometimes some jerk just pisses you off. No one likes being angry. There are good ways and bad ways to deal with anger.

Good way: Take a deep breath
Bad way: Take the breath out of that jerk by strangling them.

Good way: Eat some chocolate
Bad way: Eat enough chocolate to get sick.

Good way: Channel your energy into something productive like building a table.
Bad way: Flip that table.
Worst way: Build a death ray.

Good way: Vent your frustration in a written rant.
Bad way: Publish your rant in *math*NEWS.

Beyond Meta

Help Wanted

~~Looking for a senior developer with experience in architecting large software systems.~~

~~Someone knowledgeable in using Java for solving a range of business problems.~~

Can you search an arbitrary tree for a string? If so, you're in!

InsideRecruiter

N Effects of Putting Your iPod on Shuffle

1. Billy Talent coming on right after a song you had to turn on max volume to hear.
2. Being reminded of all the songs you liked when you were 12 like Hamster Dance that you're now ashamed of.
3. Having one song end with "I'm free, I'm single, and it's great!" and the next song begin with "Can't touch this!"
4. Rediscovering old favourites.
5. Questioning your sanity.
6. Being reminded of all the songs you liked when you were 12 like Barbie Girl that you're ashamed you still like.
7. Realizing just how many songs of each genre you have.
8. Being reminded of all the songs you liked when you were 12 like I'm Just a Kid that you still love to rock out to.

Yours in music,
Shay Blair.

N Troubles with Transportation

Travelling to places is hard.

- Bus drivers can be rather off-putting if they seem like they're having a bad day
- Missing a bus is awful and can be really costly (both financially and in terms of time)
- You can only carry so much on a bus
- Space can be awfully limited on a bus (especially in combination with everyone carrying as much as they can)
- Shuttle buses are awesome, spacious, and cheap (sometimes even free!)
- Going from point A to B by taxi costs \$N, but going from point B to A in the same taxi costs \$n, where (often) N < n and that can seem rather unfair and inconvenient
- Walking is great exercise, but it can be really time-consuming and tedious if you've been on your feet all day already, not to mention we're all lazy, am I right?
- Motion sickness is hard to deal with, thank goodness for Gravol!

waldo@<3.LE-GASP.ca

Are YOU on a High Fiber Diet?

Ah, the title is a bit misleading. But now that I've got your attention, if you know how to knit or crochet (or would like to learn how), please come out for Stitch and Bitch every Sunday at 1:00-2:30 PM on the third floor of MC (usually in the C & D)! Just bring your unfinished yarn projects and works-in-progress to work on while complaining about your diet that is made up of veggies, fruits, and other foods that stimulate bowel movement.

Hope to see you there!

MoGlo =]

N Pros and Cons of Having a Boyfriend in Math

Pros:
- You get better grades in your math classes (unless he is a distracting person in your class)
- He plays Pokemon
- He bakes pi for you
- $\lim_{x\to\inf} \int ex = f(un)$
- He visits you in your MathSoc volunteer office hour
- You can talk about tech with him for HOURS
- You're both going to be Orientation Week leaders in the fall

Cons:
- Your "hot" dates consist of doing assignments together the morning they're due
- He plays Pokemon
- The only shirts he owns are from MathSoc
- The only colour tie he has is pink
- He would rather do his Real Anal(ysis) assignment than take you out

Even if you don't have a significant other, don't fret! One day, your ρΓίπ©ε will come!

MoGlo =]

Generic Article About Self-Esteem

Disclaimer: the following article was written with complete disregard to *math*NEWS' typical demographic and the type of the articles generally feature therein. Additionally the following article is not intended for humour. Heck, this disclaimer is probably funnier than the following article. You should probably not read this article. It is very boring, though it might be useful if you have low self-esteem.

It seems that a lot of people are insecure about their looks. My approach to determining if someone is fat is simple. Instead of wasting my time angsting about whether or not I'm fat, I decided to use science to settle the question. One common measure for obesity is BMI, however it tends to unreliable as muscle is heavier than fat. A better measure is waist-to-height ratio. If your $0.40 \leq$ waist/height ≤ 0.50 then you're healthy. If your ratio is less should eat more and if your ratio is higher than you should exercise more.

I wasn't lying about the article being boring.

Beyond Meta

Submit articles to *math*NEWS by coming to our Production Nights, via e-mail (*mathnews@gmail.com*) or through the BLACK BOX in front of the Comfy

On the Issue of Kleenex

From the (snot covered) desk of a sick editor

This has been a not-so-great spring for me nose-wise.

Firstly, after having lived here for almost two years, my allergies are starting to emerge. But they aren't the constantly mild sniffling that I am accustomed to from my homeland. These are sudden, violent attacks of face-dripping discomfort that last for five or six hours and disqualify me from any useful activity. Secondly, I am now sick. Which means I am not writing this at production night, but in my newly made Kleenex fort nursing a vat of tea like my newborn child.

My nose is certainly taking a beating. The skin beneath is raw from constant Kleenex application. It now really, really hurts to blow my nose but I really, really need to. And in a few days from now, my nose will start to heal, but in the ugly sort of peely-skin way that looks and feels gross.

I have developed a method of avoiding what I call "the Rudolph". The method is simple: shove Kleenex up your nose, or more formally, divide a piece of tissue paper laterally. Twist each half in the middle to form a mushroom shape. Insert one half into each nasal cavity. Remove and repeat as necessary.

Sounds awesome, no? Not only does it save paper (yay environment!), but it prevents nose irritation and constant wiping. What are the flaws you ask?

Well, this method only works for a steady drip. When a sudden explosion occurs (aka a sneeze), the nose plug method backfires. Unlike a normal sneeze, where there is a nostril-width of space for it to fit through and dissipate, the nose plug restricts this area and creates more of a snot cannon.

Also, do you know how silly you look with Kleenex up your nose? A lot of people assume that you have a nosebleed, or just look at you funny. It's a really great method though. Some days it's the only way I can get any work done. In fact, I wrote this entire article with Kleenex up my nose. That's why it looks like English, and not as if a cat walked over my keyboard.

To thine own nose be true,
GingerbrED

Calling All Wordsmiths

Have you ever wanted to craft your own universe? Ever wanted to play god, have ultimate control over the lives of mere mortals? Such power can easily be at your disposal if you devote yourself to the mastery of the strongest weapon: the pen. Join the society of the periphrastic erudite. The meetings shall be held in the looming gray fortress two hours past midday on Saturn's day in the chamber two-thousand and thirty-eight.

TL:DR Creative writing club meeting tomorrow Saturday June 1st at 2pm in MC 2038

Beyond Meta

Why I Want the Xbox One to Succeed

I feel like people boil down the Xbox One announcements to three things: TV, Sports, and the dog they added to the new Call of Duty. I think that trivializing the Xbox One as "just TV" is premature. I mean, yeah, you can get TV from Rogers or Comcast or whomever. But that's not what makes the announcement interesting.

We know that the Xbox brand thus far has been about video games. I mean, yeah, it ships with an old version of Internet Explorer, and yeah, you can use it to watch Netflix and YouTube (provided you pay for an Xbox Live Gold Membership), but really people used it because of Halo, and Fez, and ilomilo. (At least, that's why I went to the bother of getting an Xbox Live Gold Membership — in spite of not owning my own Xbox 360.)

What's interesting about the Xbox One, though, is the convergence of TV and computers. Apple's tried it, but Apple TV was nothing more than a hobby. Google's tried it — they announced Google TV, what, one or two I/Os ago — only to have hardware partners pull out. Even past Microsoft has tried it — remember Windows Media Centre and MSN TV? *[I remember when it was called WebTV and I'm going to burn for that --ScruffyED]* It's clearly an space with obvious room for improvement — you have to pick what to watch from hundreds of channels; you have to be there during the show or remember to program your PVR; and so forth. Instead, wouldn't it be cool if the TV recommended what to watch, and adjusted PVR times if a show started early or the game was in overtime? The difficulty is getting the incentives for media companies to align with the incentives for consumers. What I'm hoping is for Microsoft to have the market adoption to seriously make "Smart TVs" more than a gimmick. Because then, once the conglomerates are used to the idea of a converged Internet-TV-Games experience, maybe there'll be room for $MY_FAVOURITE_COMPANY to move in and introduce a competing product based on F/OSS tech.

But, one step at a time.

!able

On Cake

```
Python 2.7.3 (default, Aug 1 2012, 05:14:39)
[GCC 4.6.3] on !able
Type "help", "copyright", "credits" or "license"
for more information.
>>> import cake
>>> while self.likesCake(this.cake):
... print("Happy Birthday! \@u@/")
...
Segmentation Fault

# If only cake was sufficient to make it a Happy
Birthday.
# Friends are important. Make sure you spend
time with them.
```

!able

The Month I Rented an Upright Bass
… And lived to tell the tale!

Day 1: Tuesday, May 7, 2013. Upon carrying my digital keyboard back to Long and McQuade after having rented it for the previous four months (thank you, Music 270), I spontaneously decided to rent an upright bass. So I did! And then I had to carry it back to my house. Sigh. Both the piano and the bass were very heavy.

Day 4: Friday, May 10, 2013. I finally got the opportunity to play it! Shame… After learning how to set up the bass properly (ie. finding the proper stand height, attempting to tune the damn thing without an electronic tuner, learning how much to tighten the bow…), I realized that the technique is, while similar to that of the electric bass, quite different. Not just the right-hand technique, but finding the positions with the left hand isn't trivial for the first little bit, and then becoming used to the spacing/weight of the strings is fun. More fun is had when a violinist housemate gets back and is completely distracted by the bass.

Days 5-19: Saturday, May 11, 2013 – Sunday, May 26, 2013. Spent more time playing the bass. BNL's first album, Gordon, is played exclusively with an upright bass, and so imitating Jim Creeggan became a goal. The band's version of Lovers in a Dangerous Time (not actually on Gordon) involves a string bass solo which is bowed, and thus is played over and over again. Apocalyptica is also played, although that's cello metal, not string bass metal. Oh well. Figures.

Day 20: Monday, May 27, 2013. After carrying the bass to Grebel (half an hour from my house, including bus from McCormick to DC), I played in a small jazz combo. This went mildly well, mostly because we could play quietly, and jazz theory carries over from electric to upright, with minor changes. I then learned how to carry the bass in a more reasonable fashion, by reattaching the strap on the case so that I could carry it over my shoulder. This was useful!

Days 21-27: Tuesday, May 28, 2013 – Monday, June 3, 2013. More playing happens! More fun happens. My bowing technique has, at this point… become not that much better, hah. For having never touched a bow, it's not bad, though.

Day 28: Tuesday, June 4, 2013. I carried the bass back to Long and McQuade. Finally, I'm back to carrying around an electric bass and my amp. I'm not sure what's better at this point, honestly. Both are obnoxious options. (As an aside, FASS Band was hilarious, due to the whole "guitar/amp/backpack/stand" juggling act. The people who walked me back to the bus stop were wonderful.) Those flute players are luckier than hell. Rawr. But I love the instrument, so I won't change.

Please note that this article was written on Day 20, and you are reading this on Day 24; everything accounted after Day 20 is a probably paraphrase of what has happened or what will happen. Hopefully your head doesn't hurt.

It was a great use of my roughly $80, in my opinion. Definitely a great idea. However, things that would've improved my experience include the following: a stand for the bass, a bow holder-pouch-thing, a wheel for transporting the bass… Yeah, that would've been nice. Oh well; next time.

Bass for the win!
Scythe Marshall

*prof*QUOTES

"e can do anything!"

Metzger, Stat 231

"Everything is pi!"

Metzger, Stat 231

Prof: "On Thursday we'll be learning about penises.
Classmate: "Yay!".
Prof: "There we go, someone is excited!"

Packalen, Econ 321

"All my motivation is always gambling."

Hare, Math 239

"Anytime you see 'normal', it's never normal… Math doesn't have to make sense in the names, half the time it's named after dead mathematicians anyway."

Hare, Math 239

"This is our TA's name. I will know more about him when I finally meet him after class."

Papoulia, CS 371

"The lab people have other things to deal with than updating the software. Like fires."

Dickey, PMATH 360

"You might as well start guessing, you only know like 7 geometric objects or something."

Stastna, AM/PM 332

"Do you guys remember how to use induction? No? And you call yourselves math students…"

Pei, MATH 239

"Sometimes I hang out in the advising office and listen to sob stories."

Pei, MATH 239

"It works by coincidence, that's how math works."

Pei, Math 239

"Fortunately for us, on the day he dies it also happens to be the three of his kids' birthdays. Makes the math easier."

Blake, ACTSC 221

moar *prof*QUOTES

"It's like back in elementary school when we thought derivatives were just dividing things."

Waite, AMATH 361

"What it means physically is… good question."

Waite, AMATH 361

"I printed out a bunch of assignments before I figured out how to email everybody. You might as well take one, sorry about the convenience."

Waite, AMATH 361

"Usually numbers are named after the person who found them, but in this case it's Deborah the prophet from the Old Testament. I guess Deborah had a large experimental time scale."

Waite, AMATH 361

"Usually exercise means I'm going to be lazy but this time I think you should do it."

Waite, AMATH 361

"Well it's a nonlinear advection-diffusion-reaction equation but that's a mouthful."

Poulin, AMATH 353

"This method is a beautiful method that only applies to first order partial differential equations… sort of."

Poulin, AMATH 353

"If you want to draw a horse, go ahead; it doesn't matter."

Hewitt, AMATH 353

"When you think about what a bullet is… it's pointy and it kills you."

Speilmacher, ENGL 119

"I'm so easy to derail. Game of Thrones, Walking Dead, my baby… hey, wanna see some baby pictures?"

Tompkins, CS 350

"You love it, you want to marry it. that's how much you love your code."

Tompkins, CS 350

"All the kids these days die on peanut butter."

Tompkins, CS 350

"That's like a rearview mirror, doesn't really matter."

Tompkins, CS 350

"That's pretty much the life of a cat. You sleep, you eat, you sleep, you die."

Tompkins, CS 350

"If you have all these registers it's like mo' money, mo' problems."

Tompkins, CS 350

"If you see someone screaming at Starbuck's, they're volatile. That's where the word comes from."

Tompkins, CS 350

"We're going to talk about different methods for using the bathroom today"

Tompkins, CS 350

"Consumers are people who like to eat the bread. I'm obviously a consumer."

Tompkins, CS 350

Student: "Where do we find that?"
Prof: "Uh… on da google?"

Tompkins, CS 350

"You could wait for more toilet paper, but the door's locked, so that's not going to happen."

Tompkins, CS 350

"This is our werewolf killing box."

Tompkins, CS 350

"Chopsticks are the way to go now according to Wikipedia."

Tompkins, CS 350

"If you want something from someone, you can give them a lot of money. If money doesn't work, try sex. I may not be able to give you money, but at least I can give you someone you want. Or maybe we can just film it, which leads to blackmail, which is also a good way to get something you want."

Furino, CO 480

"During the US election, about 15% of Americans believed that Obama was married to a gay Pakistani militant. If they can't get that right, they're not going to get a quadratic equation right."

Furino, CO 480

"What were you smoking to get that answer?"

Furino, CO 480

[pushes up whiteboard, which slides back down] "My only comment is that this is an engineering building, and they can't get their whiteboards to work properly."

Furino, CO 480

"You can do that, or you can trust me. I would never trust me."

Furino, CO 480

"One of my students called this the Hotel California state. You can never get out."

Brown, CS 360

"This shouldn't feel delirious."

Brown, CS 360

We're Lonely; Send Us Mail

Several terms ago, we got some mail shaped like a hat. This was a great cause for celebration, as we never get mail and were lonely. Sure it contained a rant against the most recent edition of *math*NEWS, but someone was actually noticing us!

Even now we're still talking about this wondrous event. So please, if you want to be amazing, send us some hat mail. We will spend the next four or five terms talking about you, which is much better than you'd get trying to get famous on YouTube. We have provided a form and instructions for folding your hat mail.

I, (your name here), would like to (complain/praise) about the most recent issue of *math*NEWS. I am of the opinion that it (sucked/was amazing/needs more cowbell). Please ensure that your next issue (doesn't suck/is also amazing/has more cowbell).

Diagram courtesy of `kid-craft-central.com`
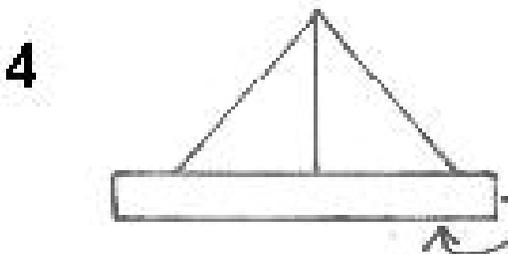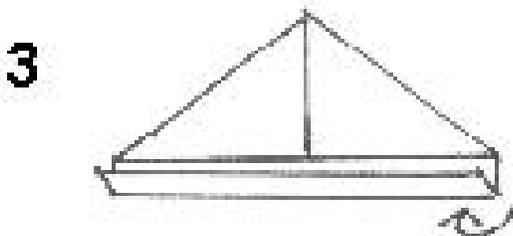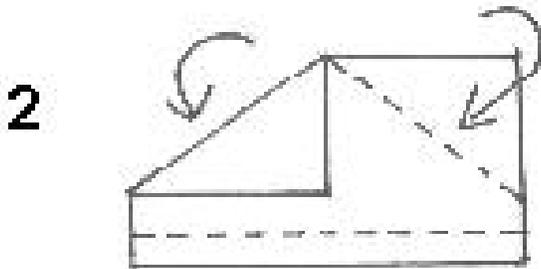
*grid*COMMENTS
Schmetterling

I hope you don't lament my lexiconic liberty in light of the thickly threaded theme. Look to the longest diagonals for a treat! Please forgive last issue's 53D's "to bev"; the editors erred. [*To err is human. I blame everyone else. — ObjectED*]

There was only one submission, so by default (and with a perfect solution) this week's victor is Rhodry, who answered "What is 1+2?" with "Three. In other words, it's a concept born of mankind's desire to assign logic to a potentially illogical universe in an egocentric attempt to gain control and understanding of his environment." Congratulations, Rhodry! You may pick up your prize at MathSoc.

Submit complete (or incomplete!) grids to the **BLACK BOX** (by the Comfy Lounge on floor 3 of MC) by 18:30 on Monday June 10th. Include your name and your answer to this issue's *grid*QUESTION—the most poetic answer decides the winner (of a $5 C&D gift card) in the event of a tie: "Who puts the wind in a butterfly's wings?"

-unit

Solutions from Issue 1:

Follow us on Facebook (mathNEWS), on Twitter (@UWmathnews), or in person (MC 3030)!

*horror*SCOPES

ActSci: With the ActSci exams coming up, you find yourself sacrificing sleep so you have enough time to study. You're too tired to remember your P-Values, so you bluff instead.
Your unlucky number is: $300 down the drain. Better try again next year.

AHS: While writing your thesis on the sleep patterns of university students, you find only inconclusive evidence in the research. It's too late to change your topic now.
Your unlucky number is: 80 pages of bullshit to be handed in.

AMATH: You decided to try and model the density of imaginary sheep in an effort to put yourself to sleep. The only function you could find was discrete and non-integrable, but you don't want to ask a PMathie to be sure.
Your unlucky number is: 14.732 sheep. You're not even sure anymore.

ARTS: Well rested on your term off, you don't understand why all your friends are complaining about being so exhausted.
Your unlucky number is: 12 hours of restful sleep a night.

BioInformatics: You decide to try and write a program that offloads DNA sequencing for faster overnight run times, but fail to take into account the increased heat coming out of your desktop.
Your unlucky number is: 45 degrees C in your room, and no hope of sleep.

C&O: You attempt to optimize your schedule so you have enough time to do your assignments, only to discover that there aren't enough hours in the day.
Your unlucky number is: 0 hours of sleep.

CM: Rest is vital for good work, but you haven't been getting enough of it and feel a cold coming on. At least you're in a better position to be working with ill-conditioned functions.
Your unlucky number is: 7 tabs of Benadryl, and 2 clogged nostrils.

CS: Taking OS, you quickly learn why all of CS frowns on no-ops. Sleep() is a waste of time.
Your unlucky number is: 500 milliseconds you could have used to handle interrupts.

Double Degree: With all the time you spend transiting between UWaterloo and Laurier, you figure you should catch up on some sleep on the bus. You oversleep and end up at Fairview Mall.
Your unlucky number is: 40 minutes late to every lecture.

ENG: After too many late nights at the bar, you hope to catch some extra sleep by building a fleet of robots to attend class for you. Sadly, you didn't teach them about life and what it's worth.
Your unlucky number is: 60 days until the end.

ENV: While working on an assignment, you pull 2 all nighters in a row. In an effort to find a place to sleep, you lie somewhere soft and warm. You toss and turn all night. You wake up in the campus garden, under the disapproving stares of your fellow students.
Your unlucky number is: 3 worms crawling in your ears

Grad: With all the tenured professors on "sabbatical" you're being worked to the bone and covering 4 classes, on top of your research.
Your unlucky number is: 93 complaints about having the same mark as everyone else.

Math Bus: You try to market special nap chairs, and charge entrance to the Comfy so people can catch up on much needed sleep.
Your unlucky number is: $563 fine for running a slum out of MC.

Math Phys: In an effort to find more time to sleep, you attempt to launch yourself in a slingshot around the solar system, slowing down time relativistically.
Your unlucky number is: 17 broken bones.

PMATH: With the recent advances in prime number theory, you decide to try your own hand at some proofs. You crack open your Math 135 textbook to get a refresher.
Your unlucky number is: 5 hours trying to relearn.

SCI: While working in the lab, you mistakenly drink a decaf coffee instead of your regular brew. The resulting fatigue causes you to load your centrifuge with all the tubes on one side.
Your unlucky number is: one leaping centrifuge destroying everything in sight.

Soft Eng: Your supervisor wants you to complete an entire team's project alone, because he heard that SEs can handle it. You miss your old job with weekly keggers.
Your unlucky number is: 16 days of work, and as many hours of sleep.

Stats: It turns out the likelihood of you and your classmates falling asleep while your professor drones follows the normal distribution. Today you learn you are perfectly average.
*Your unlucky number is:* 1.5 hour long nap.

Teaching Option: You get assigned to a kindergarten class for the summer, and they just got their ice cream break.
Your unlucky number is: 24 toddlers bouncing off the walls.

Undeclared: To sleep or not to sleep, that is the question. Whether 'tis nobler in the mind to suffer the slings and arrows of late assignments, or to take up arms against a sea of exhaustion, and by opposing end it...
Your unlucky number is: Hamlet III, i is not a valid reference in a math paper.

GRIDXXORD
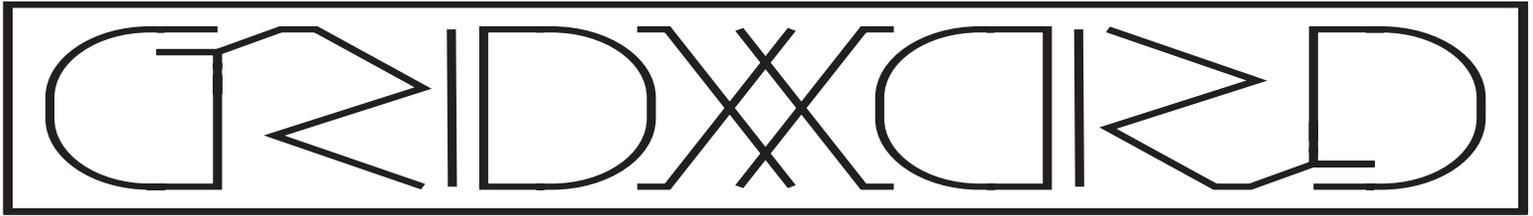
*grid*WORD Clues

ACROSS

1. Decagon, e.g.
5. Rain and wind and thunder
8. Dryad, naiad, nereid, or oread
10. Purple-petalled flowering tree
12. Dine
13. Divination cards
14. Thou
16. φ
18. Like KITTEN-MEOW or PUPPY-WOOF, for cows
20. Italian seaport
23. Comedy and tragedy
26. ROMEO without the R
27. The Book of ___ (2010 movie)
28. Matter unit
30. Repressed (with "up")
32. Yoked workers
34. Mimic
35. Old MacDonald had a farm, _____
36. Also known as
37. Albedo + zest
40. You can't slam a revolving one
43. Ontario art school
44. Layperson
45. Keeps wild Pokémon away
47. Lemon grass
48. Solfège sixth
50. Aboriginals in India
52. Solfège starter
53. Open Sound System
55. Queen's initials?
56. 1-4-5 chord
57. Hidden (like the butterfly in this grid)

DOWN

1. Sericulture product
2. Gambol and frolic
3. Wing spot
4. Prone
6. Spoken in Bangkok
7. Nocturnal butterfly
9. Virility
11. Caterpillar case
13. Insect's midsection
15. University of Alaska Anchorage
16. Pea parcel
17. Id partner
19. Marmalade rockout
21. Purple butterfly
22. Maiden name preceder
24. Dined

25. Orange butterfly
29. Butterfly in France
31. Strewn about to dry
32. Lots and lots
33. Butterfly in Spain
38. Solid water
39. Sticky fire
41. Propelling with a paddle
42. Goose, to Gaston
46. Place, to Pierre
47. Ship sheet
49. "the portable GNU assembler"
51. Vivacious, to Vivienne
52. "estimate file space usage"
54. A Carolina
56. A Dakota

This Week's Grid:

Submit your grids to the BLACK BOX (outside of the Comfy Lounge) by Monday, June 3ʳᵈ. Don't forget to answer the *grid*QUESTION on page 12