# MATHNEWS 

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Play mathNEWS poker!
Cut out the above cards and trade them with your friends!

## Where does it all Lida to?

Well, this is it. The last issue of mathNEWS and we just had our last MathSoc meeting. All that is left is the End-OfTerm pub, exams and then off to the co-op term for September.

MathSoc has certainly had an active term. Our Fed Hall pubs and the Wine and Cheese were for the most part successful. We had two new secretaries but Kelli looks like she's here to stay. All of the MathSoc services (photocopier, old exams) have been extensively used.

So now on to your co-op term. Kelli will be in until Aug. 10. her hours will be 11:00-2:00 every day.

Best of Luck.
Lida Cepuch

## MathSoc Council Notes

## MathSoc Council Meeting (July 22):

The major motion presented to the Math Council was one regarding a $\$ 15,000$ expenditure for a micro computer and software for the MathSoc office. The micro would be used for MathSoc office work, mathNEWS, and for personal resumes, reports, etc. for students. A majority of Council decided that the cost appeared too high and expressed many concerns about access and security, and the motion was defeated. MathSoc will perform a cost-benefit analysis in the future to determine whether or not such an outlay would be feasible.

AJL

## Life After Math

On July 3, John Maynard, Vice President of Southam Communications, gave an enlightening talk to a group of interested math students. He graduated from Waterloo in 1974 and wrote his CA exams, but never practised accounting. For the past ten years he has worked in several industries as a trouble shooter - saving businesses that are in financial trouble. His record is very impressive.

John illustrated to those present the relatiouship between the math and business worlds:

> Math

- use techniques
- conceptualise
- break up problems into small parts
- relate knowledge
- express problems logically


## Business

- use techniques in business management and people management
- project new ideas into new applications
- keep things simple
- combine knowledge with feelings
- think clearly
- communicate (sales)

He pointed out a well-known fact - math does not train us to communicate effectively. We must develop this skill during our work terms and through elective courses. One final tip was to use scatter plots. John claims you can illustrate anything to unsuspecting executives with these.
L. Budnick

## Fed Meeting

A very interesting and long meeting of student's council took place on July 21. Larry Richards, the architect hired by the Bombshelter Renovation Committee, presented a proposal for "Spikes ... at the centre". Phase 1 proposes a revamping of the interior including a raised floor section, carpeting in certain sections, games area, pub section, new paint and railings, lighting as well as other changes. The cost will be $\$ 30,000$. Future phases include a new dance area, built-in booths, new furniture in certain sections, with a projected cost of $\$ 25,000$. Council has approved the proposal in principle, with construction likely to begin in October, therefore the Bombshelter will be closed for 3-5 weeks during renovations.

The next major issue discussed was the resignation of Dwayne Heppner, External Liason Commissioner of the Federation. Dwayne called for a vote of non-confidence from council in Sonny Flannagan's presidency. It appears as if there was a severe communication problem between the two. After various accusations by both parties, the motion was defeated.

Another motion was passed by council to actively oppose the Miss Oktoberfest Beauty Pageant being held on campus. The reason behind this motion is that it was felt that beauty pageants promote role stereotyping which undermines the work and aspirations of women on campus.

Beginning in September, the Birth Control Pill will be available free to students with prescriptions, provided they are covered by the Student Supplementary Health Insurance. There are still some considerations with respect to different types / brands available which have to be finalised.

The North American Squash Championship Tournament will be held in Fed Hall October $2,3,4$ and 5. International squash personalities will be competing. A glass court will be installed inside. Students will be admitted for $\$ 2-3.00$, and Fed Hall will be open as usual when matches are not being played.

Bruce Parent

## A Note of Thanks

At this time I would like to thank the many people who helped make this a very fun term. I worked hard to co-ordinate a wide variety of pubs and special events that I thought might help release some math anxiety. However, it was the enthusiastic support and efforts of the entire MathSoc Executive, the office workers, and the promotion team, that made these events happen. In particular, I would like to thank Brian Fortune, Jane Dunlop, Dwight Ferguson, and Jack Rehder for their tremendous help. But, most importantly, I would like to express my thanks to you - the math students. For without your many ideas and suggestions, your overwhelming participation in fund-raising and special events, and remarkable attendance at the pubs; this term just would not have been what it was. See ya all at our E.O.T. pub with Rational Youth this Friday nite!!! Thanks again,

Al La Flamme - Social Director


## The Lords Of Discipline

During each Spring Term the Chairman of the Undergra duate Advisory Committee on Academic Discipline releases a report concerning the conduct of cases reviewed either informatly through his office or formally through the committce. Thic information in this report is conveyed through mathNEWS to the students as well as to faculty members during the first Facoucil meeting each academic year.

We intend, through the publication of this information, to make students aware of the consequences of their actions should they fall under the purview of the University recommendations for dealing with cases of academic displine. Complete information about the University's guidelines is available from the Registrar's Office.

## Informal Cases

There were five incidents of inappropriate behaviour during examinations. In one, a student began to write the exam prior to the official start announced by the presiding officer in the exam room. In this case the student lost the marks assigned to the question answered prior to the start of the exam.

On another occasion a student left a midterm exam room with his/her completed exam. This student received a zero grade for the exam and his/her instructors were alerted to observe his/her exam room conduct.

A student was discovered using a "cheat sheet" during a closed book exam. In this case the student received a credit of $-100 \%$ for the contribution of the exam paper grade to the final course mark.

In two cases of copying during an exam, one student received a zero grade for the exam. In the other case the student admitted copying three questions from another student's paper and was granted zero credit for those questions.

There were four informal cases involving the submission of copied assignments. In one case a student who submitted another's work in two courses admitted misconduct some years after the fact. This student received a retroactive failure in one course and a reduction of mark in the other.

In another case, both students implicated received a - $100 \%$ grade for the assignment in question. Another case involved a student from Wilfred Laurier; the case was turned over to WLU officials and resulted in the student's expulsion.

In one other case a student who faslified a record indicating that he/she had never before taken a particular Arts course (for which the student was about to receive duplicate credit), was reprimanded by the Associate Dean and required to drop that course.

In all the above cases the students received a reprimand from he Associate Dean of Undergraduate Affairs and the grade penalty indicated. The record of the offense will be maintained by the Associate Dean until the date of the student's graduation when it will be destroyed.

## Formal Case

The formal case heard by the Committee involved an impersonation attempt. Student $A$ arranged for student $B$ to write a final exam on behalf of $A$. Student $B$ used a false ID card that $A$ and $B$ had procured earlier so that student $B$ could drink while underage.

Both eventually acknowledged their complicity in the incident. The recommendation by the committee, supported by the Dean and upheld by the President, was that student A receive a zero grade for the course in question and be suspended for two academic terms. Student B was not allowed to claim credit for the Winter 85 work term and was also suspended for two academic terms.

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| :--- | :--- |
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| U.S. Imperialist | Decadent |
| Oppression | Running-dog |

b) The ability to Chevrepeat. (i.e. be able to re-express the above Chevwords at least 10 different ways to disguise any repetition. For example: capitalist, capitalism, capitalistic, capitalagoricalisticness, etc...)
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"Rambo, First Blood - Part II, is a typical example of the capitalistic North American lackey, running-dog scum-type movie that conforms to the U.S. Imperialist status-quo-like ideals of the oppressive neo-socialist decadent society in which we live."

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"(sic)" - (George E.)
"No comment" - (Tom A.)
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## The Caliph of Caliphornia

We last saw our hardy heroes scattered across two planets In this, the final instalment of this series, the incredible narrator demonstrates his utter inability to resolve all the plot complications neatly, and even creates some new ones (obviously not having learned from his English course that Aristotle thought that episodic plots are the worst kind).

On frigid Mars, derfy was forced off his plane in $-240^{\circ}$ weather, and inio the ramshackle palace of where Xzdtz Mglpfnh ruled. Ai that very moment, the Rnghl's daughter, a true derfyiette, tintered the dungeons. Spotting derfy, she fell head over heels in Seve at first sight. After he had picked her up with an odd lecing of déjà vue, she proposed marriage.
"If you accept, you'll become a prince and can do whatever you like. If you don't, I'll make Daddy behead you!"
"But I'm already married!" protested derfy, and for once succeeded in performing a triple reverse aerial somersault, landing neatly in a flying saucer. After some initial trouble with the controls he succeeded in lifting off by stepping on the only pedal in the machine, and he hurtled Earthwards, followed by the Rnghlk Martian Saucer Force.

Meanwhile, the Mad Irishman and Dr. Ernie, trying to save the noble Shirriff from Absolutely Nothing, were surprised to see a remarkable dwarf emerging from the forest, leading a bear.
"I have just what you need", said the bear.
"The djcl-wjj Cure for Absolutely Nothing!" added the dwarf.
"Guaranteed to get rid of unsightly Absolute Nothingness in just seconds!"

So saying, they doused the insoluble Shirriff with several bottles they had in a magical envelope. Sure enough, he recovered almost immediately.

The bear conjured some cars, and the five of them sped off to Mount St. Helen's (until the Shirriff insisted they stop speeding).
dan and Gëorg arrived at Alison's home, where she wished to hang dan on her wall.
"A man well hung need fear no coloured hair", she insisted.
"I've been framed!" cried dan, and explained why he wasn't afraid of coloured hair. As the henching hordes of the Caliph's men almost overtook them, they leapt into Alison's Jag and learned that it could go from 0 to 200 in less than 3 seconds.

Gggregg ordered the other henchmen into Alison's remaining cars, and this fleet took off in hot pursuit.

Paul and Centre of Gravity ran through Hollywood, where they met one Fozzie singing on the stage of the Muffin Show. Holding an Ex-acto knife to his throat, they forced him to drive them to Mount St. Helen's.
"But I've been keeping a girl in the trunk for just such an occasion!" he explained, and revealed Jane to them.

Arriving at Mount St. Helen's they found thirty cars already there. Spotting a huge man stuffing his face with quiche in one of these cars, they entered the fray. Thirty cars now circled madly in hot pursuit of one another around the rim of the crater.
"Zooom ... Zoooom... Zocoom ... Stmanr... Zoooonoom ... ZOOOOOM
Zooooom ... Frotigiano ... zooom ... Zooooom ... RUMBLE!!"
"Rumble?????" asked the Caliph.
"I think it's the transmission", suggested Dr. Ernie.
"No, I think it's the landscape!", replied Paul and Gëorg simultaneously.

And the car chase stopped while everybody watched an earthquake along the San Andreas Fault. Finally, in a phenomenal display of plate tectonics, the entire North American continent slid into the Pacific Ocean. Nobody there at the time could now explain, how it came about that North America slid into the wrong ocean, but they will all agree that it was the Pacific.

Just then a flying saucer appeared in the middle of the volcano crater, and out leapt none other than ... derfy! After being saved from falling into the now erupting volcano at the last minute by a quick spell cast by the dwarf, derfy watched gleefully while that same eruption destroyed the Rnghlk Martian Saucer Force.

Thinking quickly, the Caliph darted into the entrance to his secret lair, motioning his men to follow. Equally quickly, the grim Greggg yelled out "Hench this way, men!", and drove directly down to the upwelling lava.

Ggreggg, of course, leapt from his vehicle in the very nick of time, but the true henchmen were unable to do so (yet another situation where wearing seatbelts costs lives - if ever you be led by a false henchman into pools of molten lava, remember this important lesson).

Returning up the steep slope on foot, Greggg rejoined the other mathNEWS staff as they trekked warily into the heart of the mountain.

At length, they o'ertook the Caliph as he escaped from room to room in his labyrinthine lair.
"I've captured the mathNEWS types!" exclaimed Gggreggg.

The Caliph's quiche-filled face poked cautiously from the ceiling. Observing that, indeed, his lead henchman was pointing automatic repeating Ex-acto ${ }^{513} \mathrm{knives}$ at the staff members, he let himself down with a cart of quiche.
"Well, my dear mathNEWS staff, ... Mmmpf ..., you've led us on a merry chase, but at last we have captured you. And do I ever have an exquisite torture planned for you. It will take you thirteen hours to die, and I have only overlooked one possible way of escape, which is absurd anyway, as it requires ... Mmmblrl ... a Martian hrllsjx."
"But I just picked up a hrllsjx!" observed derfy.
"Mmm ... but a Venerian model, of course."
"No. The genuine patent leather Martian kind."
"Oh! Then I'll have to invent some even more original torture... Hmmm..."

At which point, they seized him and destroyed the quiche.
"I have a henchman! ... Oh! I have a hunch, man, that this henchman is not all that he appears to be. Oh no! O woe is me! What shall I do? ... It was all just a joke, really. Ha ha. ... I never meant you any harm! What did I ever do?"

But all was in vain. The vengeful mathNEWS staff forced the poor Caliph to attend a CS140 lecture at the (now submersed) University of Waterioo.

And the villainous Caliph of Caliphornia would never agan trouble mankind.


## Feedback

One Dope in Our Lives

Last work term a girl lived with a person who is an example of how much of a jerk an idiot can be if he opens his mouth. This is not only my opinion, but the opinion of everyone I know who read Derfy's article, "More Notes on My Life", two weeks ago.

His idiocy became apparent almost immediately. Some of the factors were:
i) Occasionally acting like a hoodlum to the extent that hotel security would have to question him.
ii) Having a severe personality disorder characterized by his thoughts that if anyone were worse than him they would have to be pretty horrible.
iii) Being strangely disturbed and up-tight in the presence of any conversation about sex.
iv) An inability to recognize a man/hooker from a husband/wife relationship
v) Thinks that all those with bladder infections should be treated like lepers or as if they had V.D. (as if that were the likely cause of the infection).
vi) An inability to understand the trust that follows with love to the extent of considering it idiotic to give a loved one the benefit of the doubt.
vii) Being unable to understand the concept of giving. If a man has money and you don't, and the man likes to give then let him and both will be happy.
viii) Being unable to condone a simple act of human desperation and in this moment of crisis eavesdropping on one's privacy, perhaps feeling left out because the person would no longer give him her trust.
ix) Seemingly totally oblivious to the act of love making. He almost seems to expect that when two people are about to make love they should make an announcement like, "This guy and myself are just about to have a little sexual intercourse now, so if you hear any noises it's just us falling in accordance with a primitive act of pleasure and not me having a heart attack as I'm sure anyone would probably guess at first had I not warned you beforehand and put that big shoe outside my door".
x) An insistance on barging in on the conversations with one's friends.

I could probably go on as long as derfy could two weeks ago.

How do I find this type of person? Human, just like you and me. As a matter of fact none of the above points make him a jerk, they only make him human. However, his sheer audacity to report with such consternation the human-ness of another individual and then condemning it as being the act of a low life form makes derfy (and I don't use his real name though I will next time he opens his ignorant, abusive mouth) a complete and unadulterated jerk!

I hope I've made my point clear. I'm not the poor girl you wrote about 2 weeks ago but I'm sure she and $99 \%$ of those who read your article would agree with all of the preceding opinions.

The Collective

Editor's Reply:
Dear Mr. Collective (for $i$ am confident you don't speak for as many as you claim).

I could probably go on longer than both you and Derfy in responding to the overreactive opening of your abusive mouth. I shall try not to.

Have you not just done exactly what Derfy has - publicly criticizing the opinions or actions of another to the extent of name calling?

Put-down humor has always had an appeal, as the success of Joan Rivers demonstrates (talk about a self referencing sentence). I usually don't find that sort of thing funny but $i$ recognize that some people do and did. Thus when Derfy first related his story to me, and $i$ found it somewhat amusing, $i$ encouraged him to submit if for publication with appropriate exaggerations and falsehoods to add to the humor. He wasn't as successful as $i$ would have hoped, but other staff members found humor in it so $i$ went ahead and printed it.

Straight put-downs like "One Dope In Our Lives" are not generally acceptable in mathNEWS, especially when the putdowns involve jumping to unjustifiable conclusions. As examples $i$ cite:
i) the extent to which hotel security will hassle a "hoodlum" often depends more on the hotel than on the hoodlum.
viii) eavesdropping is sometimes unavoidable-iike when people talk in the library and your trying to do a pure math assignment,
iv,vi,vii) ability unexpressed is not inability in some contexts, and just where did you come up with $x$ ).
$I$ don't regret my decision but $i$ do apologize to all offended individuals.

I might add that Derfy is the only one of our writers for which reprinting permission has been requested and granted.

## LookAhead

## EXAMS

## $\sum a_{s} t(h) e^{a d}$

I've much to say, many to thank and too little space to accomplish it all.

Of course carloads of thanks are due my
faithful staff, who have shown their ability to grasp my idea of how mathNEWS can be done.

Thanks to Cary, John, Tom lvey (double the
thanks to this goy who remembers look theads and bits), Jane (who came all the way from
Oakville because she knew (ayy would paw her), Paul 0. - a "bit" of a magician, Gregg, Camille, Fred, Bruce and Bonita.

Thanks to all contributors, induding Marc Adams and Barb Palmer (for last isue).

Thanks to Duncen and MFCF, Graphic
services and photogenic services,
Tharks to our readers, followers, friends and enemies. Finally, tharks to myself for making my own measure of svecess.

## Hitchhiker's Guide to Computer Printers

We start our tour of the various computer printers in the Federal Computer Wildlife Reserve, Waterloo Division, (popularly known to its inhabitants as simply the MC) in the cage or 'room' entitled MC3018. The first printer you will encounter on the far right is called lp26_3018. It is a fearsome beast, one of the species lineprinterus rapidus, and can be identified by the paper flying through it and its distinctive call:
WHAPWHAPWHAPWHAPWHAPWHAPWHAPWHAPWHAP with the occasional whoooshh during formfeeds. Behind it is a tamer beast, the printronix_3018. When printing typeset text, as it usually does, it emits a faint

## ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ <zip!> <br> ssshhhhhhhhhhhhhhhhhhhhhhhhhhhhhhhhhhhhh

that is barely audible over the raucous lp 26 . When printing fractal dragons, the density of output varies somewhat, producing a distinctive
zzzzzzzzzZZZZZZZZZZZzzzzzzzzzzzzzzzzZZZZZZZzzzZZZZZZZZZ
Going around the corner to MC3007, the DECwriter belonging to the genus dotmatrixus bidirectionalis produces a very interesting call on occasion. When it decides to print banners, it calls (on a falling note)
ScreeeeeeeScreeeeeeScreeeee zip Screee zip Scree zip Screeee zip
ScreeeSCREEEEEEEEEEEEeeeeeeeeeeeeeeeeeeeeeє eеeееееееееооооooo zip SCREEEE...
The laserprinters (species Xerox) are very timid animals that are very rarely seen by the general public. They reportedly make indefinite noises followed by the slap of a sheet of paper being ejected, so if you hear this, look around carefully.

One distinctive call I have heard belongs to a Texas Instruments line printer that lives in the building where I work on co-op. It looks about 25 years old, and sounds something like
kkrrkrkrrkrrup kkkrrup krkrkkkrupp krp <pause> zshhbh krkrrkrp ...

Another more common breed is the "Epson" microcomputer printer, usually seen around JANET and WATPHUN systems. Its call is quite ordinary:
rrrrrrr wzz rrrrrrr wz rrrrrrrrrrrr wzzz rr wz <pause> rumblerumblerumble.
Going on to rarer species, the calculator-size printer-plotters can often be only heard and not seen when one's desk is overly cluttered. To locate them, listen for a subdued whirrrrrrrr punctuated by the <click> <click> <click> of the microballpoint pen. If this is still inaudible over whatever background noise your typing/telephone/walkperson/whatever is creating, wait until it changes pen colors. Most mechanisms emit a distinct
chuga chuga chuga chuga chuga
which is quite unlike anything on the face of the earth.
Another pair of microcomputers printer that sound neat are those that work with the Timex-Sinclair. The original works by sparking through a thin aluminum layer deposited on black paper; the result is a fireplace-like
kkkracklkrakarckarkarckakikkarkkk
that contrasts highly with the newer thermal printer which exudes a

## rumblerumblerumblerumblerumble

very reminiscent of a disk drive.
A final noise which I should like to point out is that produced by that well-known Cabbage Patch Computer, the Adam. It can be recognized by its
tap ... tap ... tap ..... tap .. tap
to be contrasted with an IBM Selectric typewriter:
tapatapatappitytaptapDINGtaptap $w z z z z z z t a p p i t y t a p a t a p . .$.
In closing, may I please remind you of the printer-watcher's code of ethics: leave printers alone so that others too may enjoy the fulfilling experience of swearing at the \#\$\%^\&! things when they run out of paper.

Center of Gravity

## The Beast Of The Sixth Floor

Everyone knows how the sixth floor of the math building is such a maze that people can easily get lost. Also, everyone knows that there are a lot more frosh coming in every year than students that graduate. Being in math, I was able to put two and two together and realize that there must be a beast lurking in the sixth floor (similar to the minotaur) that is eating undergrads. However, anyone that I told this to thought that I have been pulling a few too many all-nighters with the computers. This just made me more determined to prove that the creature exists by obtaining an isomorphism of it on paper (i.e. take a picture of it).

First, I obtained all essential equipment, such as a camera, rolls of computer paper to guide my return, beast repellent (i.e. village food), and cord strong enough to hold back any creature (i.e. university red tape).

Finally, I set off without any idea of what to expect. I slowly threaded my way through the dark, musty maze towards the centre. However, when I reached the centre, there were no
signs of a beast of any sort. I started strongly suspecting that there was no beast. But, as I started back-tracking, I suddenly noticed that the trail of computer paper ended, with the other end nowhere in sight. After a few moments of pure terror, I decided to do a breadth first search of the maze until I found the other end.

Just as I was ready to start, a large group of rough, ornery looking characters approached. I realized that this was no welcoming committee - these were a subgroup of the Caliph's henchmen. The Caliph had set up a secret observation post on the sixth floor so that he could keep track of what the mathNEWS staff were up to. If only I could get by the the Caliph's henchmen, I could warn mathNEWS. Fortunately, I was able to temporarily confuse them with some mathematical paradoxes long enough for me to slip by. Nonetheless, the henchmen soon caught up to me. Despite a valiant fight, I was soen overpowered by the 20 henchmen, and thus I 'disappeared' like so many other mathies before me.

The Mad Irishman

## Video Library Opens

DCS, in co-operation with the Department of Actuarial Science and Statistics has opened a home video library. Apparently the scoop is that 342.32 math students have access to a VCR and DCS believes it should control them too. To that end they've stocked a complete line of video movies, both new and recent movies.
mathNEWS in its usual pushy arrogance has acquired a preliminary list. What more can we say?

## TI Blues

Return of the ActSci
CoreGames
Queue For Fire
The Apprenticeship of Duddy Calculus
The Summer of 4341
The APL Dumpling Gang
The Great ESC
ASCII Business
A Midsummer Night's Hex Comedy
Host busters
Mobius Dick
$\mathrm{M}^{*} \mathrm{~A}^{*} \mathrm{~T}^{*} \mathrm{H}$
The Good, the BAUD, and the Ugly
Quest for Files
Duck Sup
LET IT $=$ B
Harper Valley IBM
Ordinaly People
The Rocky COBOL PICture Show
Yellow Subroutine
The Happy Hacker
Pink Rain
Star Trek II: The Math of Khan
The Man With The Golden 'Bun
The Phi Who Loved Me
Radius of the Lost Arc
DOS Boot
Dr. FALSE.
The Eigen Sanction
Cary
The Texas Instrument Massacre

## Force Ten from Waterloo

When trouble strikes, when your systems are inconsistent, when your vectors don't depend on anything, when your eigenvectors just aren't eigen it's time to call upon your hero and mine... Super Dave. This superhero of the world of linear algebra can, in the wink of an eye, generate a vector space in ndimensions, prove an absolutely horrible theorem by quoting that powerful word "cake", sing the praises of the Macintosh (his faithful sidekick) in generating homework assignments, answer all rational questions from rational human beings (as stated in his contract) and mispronounce the letter " z " (and the word corollary). How did we ever get along without this Super Prof?

The Finite Few


Editorial

They invaded a univetory Licking the boots of big business And so your work will revolve around...


A Wesley GraHPam HProduction So scary it has flip up screams!

With this the last issue of the term i feel a few parting wo rds a re in ord er. I'll be brief.

You may recall a hint that we might have done the last two issues of mathNEWS on newsprint. I never wanted to but our silly board of directors thought it would be cute experiment. Well most of my staff, followed by myself, threatened to quit (some required my coaxing). The result is that our comfortable format has remained unchanged and will probably remain unchanged for years to come. We wouldn't let you down.

I must apologize for having to meet too many deadlines to be able to explain this situation earlier.

In conclusion, editing this rag has been quite an experience. We've had many favorable comments and a few unfavorable ones (but we ignore those). I will seek the post again in the upcoming winter term, continuing to inflict my style on the general math public at large.

I would like to thank absolutely everyone who had anything to do with mathNEWS this term. (See the masthead).
dan schnabel

## What is Mathematics

This article was suomitted a couple of months ago but due to office moving, filing difficulties, scribble translation difficulties and the fact that its opinions conflict with the editor's own strong opinions on the subject, publishing has been rather delayed. Our apologies to Mr. Adams (and we were only kidding about the opinion conflict).

Any student of mathematics must at some time or other have asked this question : "What is Mathematics?" You can group this question together with others such as "what is truth?" and "what is life all about?" But there is something definite about mathematics that invites me to attempt a definition.

Of course, a definition depends on the point of view one takes of a subject. If a sports fan television addict and a TV repairman were asked to define a television set, the first might say that it is a form of entertainment, the second that it was an electronic device. I will attempt to define mathematics from the point of view of a university student majoring in the subject.

People come to university to study. Through studying we hope to acquire knowledge and skills that will help us to cope better with life's problems, make a useful contribution to the society we live in, and last but not least to get a better job. What is mathematics and how does studying it help us achieve these goals?

I have not researched this topic, but I have come across attempts to define it as the art of reasoning, and as a language. Anyone who has stayed up until three in the morning working on a math assignment will understand how a student working on his mathematics can have the same sort of passion for his work that an artist has for his art; and memorizing a new set of symbols is certainly similar to learning a new language. But mathematics is different from art or language: mathematics is an approach to problem solving suited to theoretical inanimate problems.

From calculus, to algebra, to statistics, in fact to any branch of mathematics, the purpose of studying the branch of mathematics is to acquire skills and experience that will allow one to approach and solve a new type of problem. It could be argued that this is the idea behind any course of study. But it is particularly so in mathematics where the theory is developed in response to crucial problems (in physics, in data management, etc...), and homework is assigned in sets of 'problems'.

The problems mathematics was created to solve are the theoretical inanimate problems, i.e. those theoretical problems that do not directly involve human feelings or thoughts. From the fourth year course Introduction to Logic, Part II I have learned that a recurrent pattern in mathematics is to create a language to suit a particular abstract structure or model, and then to proceed to make a set of statements, or theory, about the model. Thus in mathematics a language and theory are developed about each particular structure or abstract problem.

Therefore mathematics is an approach to solving theoretical inanimate problems. Studying it gives us a mastery in problem solving that trains us to think analytically, to approach social and political problems objectively, and to be rigorous and methodical in our everyday work. To the student working on his assignment at three o'clock in the morning however, mathematics is still an experience that eludes definition.

Marc Adams

## Georg's Guide To Keener Hunting

So, you want to know how to hunt keeners. So, you want to bag yourself a keen one, eh? Well, here's how you go about it.

First you have to choose your type of keener. There's the ones that sit at the front of any calculus lecture and keen. That's right, they make this kinda high humming and whistling noise that drives you nuts. But, you see, that's how you can spot those sorts of keeners. Then there's the type who know the course so well that they just fall asleep in class - you can tell them by the high, piercing snores that you hear all day. Then there's the pseudo-keeners who aren't really all that keen but look like it, just so they gain "respect", "awe" or "enmity", whatever those mean.

Fine. Now you got your keener spotted. You gotta get yourself some bait. Now, when it comes to choosing keener bait, you have to be pretty particular about what you pick. Sometimes an old copy of BYTE will work; sometimes a set of UNIX manuals; sometimes a yellowed calculus assignment will do the trick. Once you have your bait, you have to lay a trap. OK, Shaggy and Scooby have to be the decoy, while Velma and I will ....| Whoops, wrong article! That's from our Saturday Morning Cartoons Issue.]

Like I was saying, to bag a keener you have to lay your bait and rig up a trap. Sometimes you can get them to answer a question just at the time when you got your net danglin' just over their heads. Sometimes you can fence them in with some CA's and Kin students who just happened to be standing by. Sometimes you can trap them inside that big ugly 1403 printer in the CMS room.

Anyway, I bet you're wonderin' what to do with the keener once you got him. I usually string 'em up - with bindertwine - above my door and let the arms hang down like a horseshoe. It's good if they hang for a while; it softens them up. My friend Vern uses 'em for coatracks and bookends, or sometimes he just sets 'em up in deck chairs and pours a few glasses of Jack Daniels on them ... There's nothing like a keener or two when you're listening to the baseball game on a hot Sunday afternoon.

Geörg Mandrive

## WATSFIC D\&D Tourney

WATSFIC ran its D\&D tournament the weekend of July $6 / 7$. Here are the results:

Round 1 1st place TO.
2nd Acme Pest Control
3rd place Fergie's Glorious Horiffically Insipid Joyriders (FGHIJ)

Overall 1st place - FGHIJ team members Rick Buzzelli, Vic Aleong, Brock, Halftrack, Carol (CL) Fisher, Rico Mariani 2nd place - Force Six: The Saga Begins. honourable mention The Champions of Calahorn, and The Dynamo Hobbits. Overall role playing prize - Stephanie Clarkson, from TO.

## How To Play Points

O.K. So you're sitting in the CC with a couple of friends. Conversation died 20 minutes ago since everything you think about,(i.e. Mad Max, chocolate ice cream, power tools, etc.), somehow reminds you of the CS-240 exam you have coming up. So what do you do? Why, play Points of course.

Points is a game known to few but appreciated greatly by all who are aware it. To play, all you need is a couple of friends (although 'Points Solitaire' is possible) and a keen eye for the insipid or tacky. Fundamentally, the game consists of earning points by spotting un-knowing human beings doing something that they would not be doing if they were presently aware they were being observed. Do not re-read this last sentence!!! I'll give you an example instead.

Once in the CC, while killing a lunch hour by becoming one with the couch and listening to 'Rancid Wombats' on the radio, I noticed in the distance a student taking a long, relaxing drag. I did not get points for this. This is a common and definitely non-embarrassing event. But boy was this guy cool. I mean coooooooool! He kept the smoke in his lungs for the duration of the Wombat's hit single - "Let's drink until we puke or die, whichever comes first". I did not get points for this but my Points switch went into alert mode. Then his mouth opened ever so slowly, and his jaw jerked inwards as he exhaled. The result as the smoke formed a cloud around his head was a miserable attempt at blowing a smoke ring. For this I got 5 points. But the bonus 10 points befell when the hip dude snapped his head from side to side to make sure no one saw him fail his miserable attempt at blowing a smoke ring.

Get the idea? But there's more to the game than just this basic example.

- Do you know someone who wears socks with a different colour for each toe?
- Do know someone who thinks Donny Osmond is just the dreamiest?
- Have you ever noticed a group of people holding hands and dancing in a circle to Dead or Alive's, "You Spin Me


## Round"?

Have you seen a professor explain the importance of a categorical eigenspace with his fly down?
Has a friend ever said "fuck" at a faculty party just before realizing that the room has become strangely silent?
Has a truck-stop waitress ever yelled to you, "Hey Mac", across the restaurant?
Who., the guy next to you in Calculus clean under his fingernail: with a pen, hence replacing the dirt with blue ink?
Have you ever noticed that the only thing in the brief-case of the guy in the front row is a brown-bag lunch?
liave you ever seen a Yuppie accuse his buddy of being a Yuppie?

Seen dan recently?
If you've answered yes to any of these questions, then congratulations you've just earned yourself 5 points and you're well on your way to a zany world of point-filled laughs and non-stop excitement.
Once you've mastered this ability you're ready to play Advanced Points. Let's say you're at an uninteresting party that you've crashed and you're behind your friend, Gus (a name for which you can earn 2 points alone), by 50 points. To catch up quickly just make yourself a dare. For instance you can say: "O.K. Gus, if I ask that fat girl in the corner to dance with me, will you give me 50 points?". "Sure," Gus answers, "and I'll give you 100 points if she turns you down."
I'm sure you're becoming aware of the endless possibilities Of course the best part about the game is that so few people know about it that most don't know what you're talking about when you walk by them and say to your friend " 5 points". In fact, I wouldn't have told any of you about it except that Mike is beating me by 75 points so I figure this way I'll get five points every time I overhear one of you playing the game.

Fozz Sutherland

## More Notes On My Life - The Final Chapter

## Camping

Ah fresh air, edible green things (unlike village food) and lots of space! Life away from the toils and troubles of civilization! Ain't it great.

No washrooms (mosquitoes using my backside as a dartboard).

No power outlets (where do I plug in my toothbrush ?).
You have to wash in lakes or rivers. (if the fish don't get you the acid rain will do a number on your rubber duckie that has to be seen to be believed).

No grocery stores around (hmmm, this pine cone doesn't taste so good. Let's try some bark. yuck. blecch.).

Ferocious wild beasties attacking you (hey, something don't smell too good here. What's this? Mygodaskunk!!! Oh nooooo.... Did you realize that skunk smell doesn't wash out of clothes
very easily? Did you realize how much sense it makes to have more then one pair of pants with you when camping? Can you say nudist?).

Tame wild beasties following you around (Mr Mountie, this bear has been tailing me. Could you tell me why? .. What do you mean it's in heat? It doesn't look hot to me.).

The people you meet are sometimes a little .. off balance (hey look ma, there's some guy eating bark and drinking beer with a bear (grizzly naturally) over here! Hey look ma they're coming this way! Why are we running away ma?).

Ah the great outdoors! You can have it.

## The Gridword Strikes Back

Last issue's gridword, despite the fact that it was riddled with errors (gulp!), was correctly solved by Chris Rotherforth and Randy Long - these people will be eligible for a 2 -for-1 deal on a mathNEWS for next term. By the way, for all you once and future prizewinners out there, you must get your subscriptions in soon (see elsewhere in this issue for details).

I bet you didn't expect another gridword this term! Well, here it is - we won't have a chance to publish the solution, but we are offering a different prize this time. The first correct solution turned in at MathSoc today will win you two tickets to MathSoc's End-of-Term Pub - thanks very much to Michael Behm, who donated the tickets.

So, happy solving - and don't forget to write your phone number on the back of your solution.

## Clues

Acro's

1. $m$ asure the depths with bob
2. agreement
3. Carlo, get me those sea growths
4. feline or felon
5. machine minds (abbrev.)
6. head of Magpie River
7. absolute ruler
8. tuberculosis
9. Tolstoi's Karenina
10. Rob Reiner's rock group
11. . P? I
12. Arithmetic Logic Unit
13. v
14. Le Carre in from the Cold
15. reproductive cell
16. Catholic Cola
17. Group of Seven's Jackson
18. nasty Mr. Laurel
19. from Waterloo To Toronto
20. "le petit mort"
21. where's Salinger's Catcher?
22. made from two addends
23. Longfellow's watha
24. "Hollow Men" poet
25. the egg nogg rang on

## Down

1. Personal Computer
2. cattle noise
3. 92nd element
4. devouring mouth
5. obvious ant table
6. to play the cat
7. pronounce, utter
8. young, strong, newly grown
9. granny or aunt
10. liner sunk in 1912
11. another short article
12. a tale of heroism ( 2 wds .)
13. those who play
14. poisonous element with old lace
15. canvas-stand
16. strong, solid ale
17. string player's resin
18. bras
19. not 'nay'
20. friend to Hopcroft and Ullman 38 short magazine
21. note to follow fa

## mathNEWS Worldwide Subscription Service

Since May, the all-new mathNEWS Worldwide Subscription Service has been delivering mathNEWS issues to Mathies throughout the world, whether they be in Toronto, Ottawa or Finland. You, too, can join the throngs of Mathies who get their mathNEWS on their work term. To get your Fall ' 85 issues, send an address and $\$ 3.50$ ( $\$ 6.00$ out of Canada) to mathNEWS via the Black Box on the 3rd floor, or ask at MathSoc. Then, prepare yourself for a deluge of mathNEWS issues starting in mid-September.

Expected guests this fall: Tom Ivey and his all-Philosopher Band; dan schnabel commuting from workterm (we will answer the crucial question: "Will dan get another haircut this Fall?"). You'll see names and acronyms like dwarf, djel, grmefarlane, Sauron, MLE, Dr. Ernie, and who knows who else? So keep in touch. Subscribe today!


## Unclassifieds

Dear Collective: I have a bone to pick with your article where do you get off telling everybody that I am human? Ask any of my friends. None of them will admit to being of the same species as me. (Watch out for the one that thinks I'm one of Dr. Hieronymous Wombat's Flying Turnips. He's a little airheaded. What a farce.) The general concensious is that I'm a mutant from Mars, but that I won't admit it. Also, could you explain what you meant by your other comments? I can't understand what you strange earththings meant because your language is so new to me. - Derfy.

Dear Derfy: I rest my case - Mr. Collective.

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