

AT LAST: TERM COURSES

Despite a number of wrangles over procedures proving that faculty can indeed learn from students, Math Faculty Council discussed a great deal of major business. Fearing that some of the 40 - 50 members present would leave before the 5:00 pm adjournment deadline, Chairman Dr. K.D. Fryer suggested that the motion reducing the quorum for council from 30% of the 150+ membership to 25 members (originally 30 was to be the number but it was felt it would be easier to get quorum of 25 members; also 25 is a perfect square). After this motion received its required 2/3 majority to pass, the council moved on to discussion of the Library.

Since a special meeting (with no votes, but much discussion) was held three weeks ago, this topic went by fairly quickly. Motions protesting library budget cuts, and the new serial-purchase moratorium were passed easily. Some discussion centred on Dr. H.H. Crano's motion that the university should seek outside funds from the community to aid the library, and that motion, in a close vote, passed 20-16.

The curriculum committee made a motion calling for splitting first and second year full-credit "year" courses into half-credit "term" courses. Originally discussion centred on whether to make just core courses into term courses or to make all Math courses (including those for non-Math students) into term courses

with exemptions allowed for some courses (particularly those in Pure Math) After an amendment making the motion apply only to core courses was passed, discussion centred on the main motion. Opposition was led by Dr. R.A. Staal of Pure Math. Because there was more flexibility in the year system in course structure he said the year system was better for the students. He was backed by Dr. Aczel of Pure Math and J.G. Kalbfleisch who felt he got to know students better on the year course system. In favor of the motion was P.C. Brillinger who felt that term courses were to the benefit of co-on students who form the majority of students in 1st and 2nd year. Student representative J.J. Long was in support of the motion saying that terms had more flexibility. Long pointed to the results of the survey in mathNEWS which showed an overwhelming majority of regular, as well as co-on students favoured term courses. In countering the assertions of Drs Staal and Kalbfleisch that the year system allows students to slack off for a term, Long felt that those who slack off rarely recover. He also stated that the year system can deprive a person of half a credit if they pass the first term but fail the second. P.J. Ponzio (Chairman of the Curriculum Committee) was of the opinion that term courses were easier to administer for the faculty and that they tested the students better because final exams were at the end of each term. Dr J.D. Lawson supported term courses which have been common in his department (Computer Science) for the past 3 years. Brillinger pointed out that there were already 150 term compared to 30 year courses in mathematics.

After much discussion the motion was passed by a narrow vote of 27-23 (two years ago a similar motion was defeated by one vote). This motion will have to be approved by the senate before it can go into effect.

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math NEWS

IN A MESS

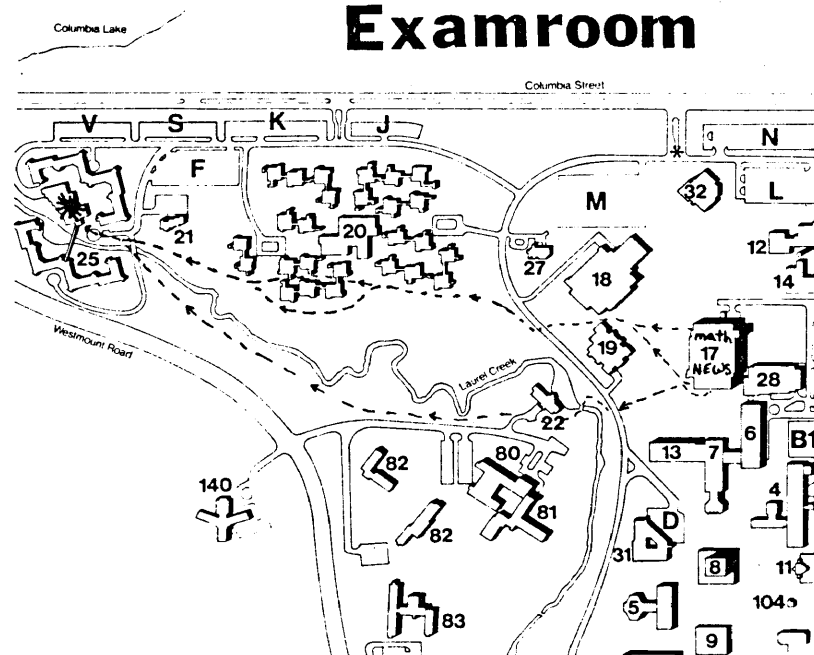
For those unaware students:

Antical is a booklet published by Mathsoc annually containing course evaluations, i.e. those taking courses in 75/76 would be able to find out what the course and proff was like in 74/75. Over 300 math classes are canvassed by means of a questionnaire. A student fills out a questionnaire for all of his/her classes. The answers (data) and comments are the content of the book.

The lack of Antical so far this term is due to the neglect of the summer council who are and were responsible for putting the book together. Various people have been working on it since Sept. when it was found nothing was done in the summer. We hope to have it out before the next one is started which is on Nov. 10. A new questionnaire will be used which is good news for those doing these for their 3rd or 4th year.

We need people to take the questionnaire to their classes. A sign up list will be posted on the lounge windows sometime next week.

Examroom



cretaceous, conglutinative, cisatlantic

BURLOAF

Last week, the gap in mathNEWS publication was filled by an Engnews. One of the articles dealt with the way the Engineering Handbook (whatever that is) is late because Dumont Graphix (The people that print a zillion copies of the beloved Chevron) refused to print the engineers' thing because it was "sexist". This action reminds me of something someone said a long while ago. The comment was to the effect that people fight for freedom, and once they have it, they then rush to put restrictions on it. It seems to me that people like those of Dumont would be up front in any fight to attempt to end any external control of the press, however, now that they can print anything they want (almost), they are the first to want to take away freedom of the press.

Now is the time of multi-midterms and many assignments. It is not uncommon to find close to 50 users signed on to the honevbun at times when normally you would only find diehard game players and hacks. Speaking of games, it would be nice if users could refrain from playing spacewar and other time wasters while this large number of students need to get assignments done. It is a real bother for a student with an assignment due the next day (even though he had two weeks to do it in) to come in planning to do it only to find the terminal rooms full, and then to find several terminals tied up by frosh and grad students playing spacewar. Not only are these people prevented from getting their assignments done, people who are signed on get slower response for a needless reason.

This week's INTEGER_OF_THE_WEEK is:

14315

If you find all of the factors of a number, and sum them all, except for the number itself, you get another number. For instance, 12 has the factors 1, 2, 3, 4, 6, 12. Adding all but 12, we get $1+2+3+4+6 = 16$. By repeating the process, we can get a sequence of numbers. For example, 12, 16, 15, 9, 4, 3, 1, 0. (We quit at 0.) Some numbers, like 6, repeat over and over (6, 6, 6, ...). These numbers are called perfect. Other numbers repeat each other. 220 and 284 are the smallest such pair (220, 284, 220, ...). You can even find triples that cycle. However, most such sequences trail off to end up at 0. Our INTEGER_OF_THE_WEEK has the rather interesting feature that it generates a sequence which repeats after 28 numbers.

If you're looking for something boring to do sometime, you might try working out the sequence generated by 138. If you come up with the complete sequence (i.e., until it terminates or becomes 0), mail your sequence to mathNEWS. (It should be fairly easy to write a computer program to calculate such a sequence. However, if it's a real grinder, don't run it when the system's loaded.)

Some time ago, one of the hacks (people who are good at getting machines confused) managed to successfully confuse the Registrar's scheduling monster. He had preregistered for a pile of courses for one of his terms, figuring he'd be here. However, he was a co-oner and jumped streams, so now he would be working that term. Needing half a credit, he figured he would pick up one course for that term, part time. Things went fine, and the little blue form that you get in the middle of the term said he had the one course. However, when his marks came, he found he had been given marks for all the full time courses he had not taken. Naturally his report had all sorts of 32's (F- on artsle courses), 0's (on mathle courses) and 4MR's. Not having many courses (he was first year), his cumulative average dropped to 14%. The computer, however is not unfeeling. Not only did it fail to bill this individual for all this ghost education but it gave him a status of "may proceed". I suspect this is because he took these 7 courses part time (according to the computer) (even though you are only officially allowed to take two courses part time). I suggested for his next term, he sign up full time, and then sign up part time again and maybe really confuse the machine, but he declined.

I was told that the reason several vending machines say "use exact change when lit" is because the vending company figures that people who have had too much to drink tend to get confused about their change when they try to put the wrong amount of money into one of these combination food dispensers - gambling machines.

For your edification and to take up space, we now present the "snowflake" (a life pattern):

```

      o
      o
    o o o
  o o o o o
o o o o o o o
o o o o o o o
o o o o o o o
  o o o o o
    o o o
      o
      o

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FLASH

The GAZETTE has denied a rumor that they will combine with the CHEVRON to form the---you guessed it!---CHEVETTE! However, it should be noted that if the GAZETTE shrinks as much this week as it did last week, it won't have to!

A number of mathies tried engnews' sample exam this week, as an experiment. The three who failed to get perfect marks were found to be masquerading engineering professors.

This week we would like to thank S.C.L. (we won't publish his real name unless he lets us) for his numerous solutions to our problems as well as some problems of his own and we always welcome his submissions.

Due to a great deal of sabotage we are unable to bring to you the correct problems (take for example problem #5 once without diagram another time without angles). Let us just say that we think we have overcome this and can begin to become a reliable section in mathNEWS.

It is about time we restate the purpose of the problems section. First and foremost it is here to stimulate the problem solving spirit in the students at Waterloo so that many of them will enter some mathematics competitions sponsored by the faculty you're in. Second it is here fill space! All the problems submitted are made up by our staff and/or our submitters and the solutions by our various other readers.

Sometimes the solutions to these problems are correct, at which time we submit the solutions. At other times these are incorrect (more often than not) and so we will put the problem in again in the next issue (up to a maximum of 2 times altogether). If no solution is submitted at that time the proposers solution will be put into the issue with the hope that he didn't make a mistake.

Well without further ado let us get into....

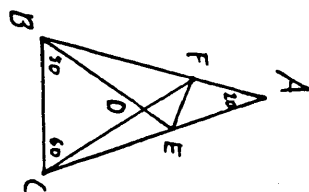
Some uneasy

Problems

The response to this column has been steadily growing despite the large number of errors that somehow seem to creep in. We obtained only one solution to Q4 by John Herzig and we couldn't understand it (actually there is only one step in the proof which we disagree with so if J. Herzig could please contact us and explain his reasoning we might print the solution to Q4 next week. It is our editorial policy to print only correct solutions to our problems despite a mass of evidence to the contrary).

We seem to be having a bit of trouble with Q5. Last week although we remembered to put in diagram we forgot to label the angles. We only got one reply to the problem, from S.C.L. stating that the problem was insoluble. We'll give it one more try. The problem is to find the ratio following where ABC is isosceles.

$$\frac{AFE + DBC}{BDF + DEC}$$



Since no one has yet solved Q7 we reprint it here for your further contemplation.

- Q7. Given that $p(x)$ is a polynomial of degree at most n and $a > 0$ is a real number. If $f(x) = a + p(x)$ has $n + 2$ real values of x such that $f(x) = 0$, how many more does it have?

This Week's Problem

Q10. It is well known that the series

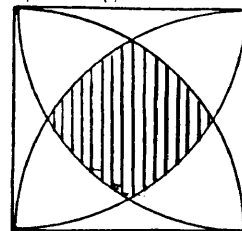
$$\sum_{n=1}^{\infty} \frac{1}{n^s} = 1 + \frac{1}{2^s} + \frac{1}{3^s} + \frac{1}{4^s} + \dots$$

is absolutely convergent for $s > 1$.
Prove that:

$$\sum_{n=1}^{\infty} \frac{1}{n^s} = \prod_p \frac{p^s}{p^s - 1}$$

where the product is taken over all primes p .

- Q11. Given a square with side of length a , draw the 4 circular arcs of the four circles with centers the vertices of the square and radii all equal to a , which lie inside the square. Find the area of the central shaded region in the following diagram:



- Q12. Proposed by J. Herzig
Let f and g be functions and denote the k th derivative of f by $f^{(k)}$.
Prove that

$$(fg)^{(n)} = \sum_{i=0}^n \binom{n}{i} f^{(i)} g^{(n-i)}$$

and show that the binomial theorem is a special case.

Solution to Q8: Submitted by S.C.L. (again)

Definition of (-1) is that $1 + (-1) = 0$

Therefore $(1 + (-1)) \cdot 1 = 0 \cdot 1 = 0$

But $(1 + (-1)) \cdot 1 = 1 \cdot 1 + (-1) \cdot 1$

by the distributive law

Thus $1 \cdot 1 + (-1) \cdot 1 = 0$

$1 + (-1) \cdot 1 = 0$

$(-1) + (1 + (-1) \cdot 1) = (-1)$

$((-1) + 1) + (-1) \cdot 1 = (-1)$ associativity

$(-1) \cdot 1 = (-1)$

Now $(-1) \cdot (1 + (-1)) = 0$

$(-1) \cdot 1 + (-1) \cdot (-1) = 0$

$(-1) + (-1) \cdot (-1) = 0$

$1 + ((-1) + (-1) \cdot (-1)) = 1 + 0 = 1$

$(1 + (-1)) + (-1) \cdot (-1) = 1$

$(-1) \cdot (-1) = 1$

Solution to Q9: Submitted by S.C.L.

We defined $F_n = 2^{2^n} + 1$, hence

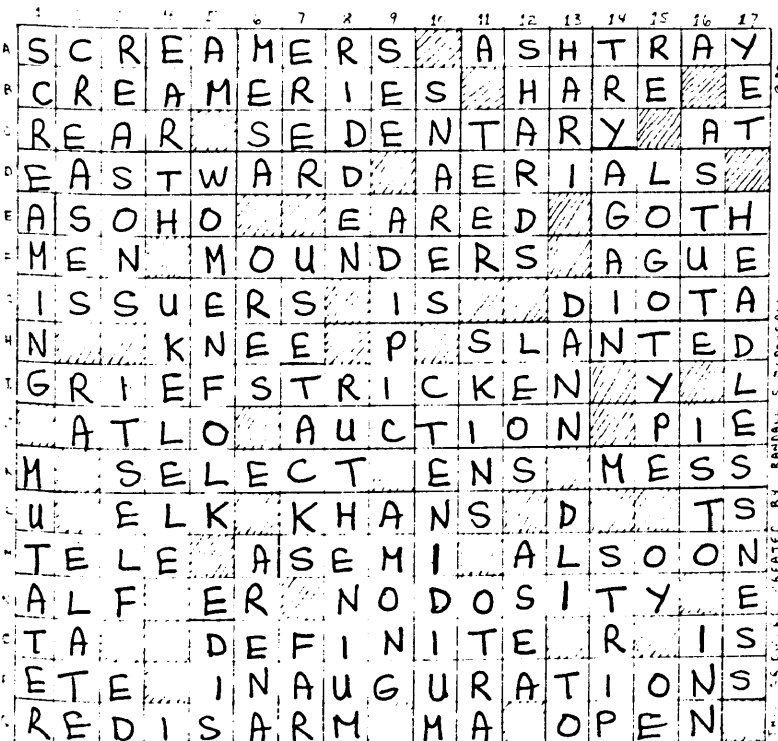
$$\begin{aligned} \therefore F_n - 2 &= 2^{2^n} - 1 \\ &= (2^{2^{n-1}} + 1)(2^{2^{n-1}} - 1) \\ &= F_{n-1} (2^{2^{n-1}} - 1) \\ &= F_{n-1} F_{n-2} (2^{2^{n-2}} - 1) \\ &= F_{n-1} F_{n-2} F_{n-3} \dots F_1 (2^{2^0} - 1) \\ &= (F_{n-1} F_{n-2} \dots F_1 F_0) (1), \text{ for all } n. \end{aligned}$$

\therefore Suppose $m = \text{g.c.d.}(F_i, F_j)$ where $j > i$.

Then m divides F_i and F_j so m divides $F_j - F_i = F_j - 2$ and m divides F_j . Thus m divides 2. But the F_n are odd (prove!) so if m divides 2 and m divides an odd number, then m must be 1. $\therefore \text{g.c.d.}(F_i, F_j) = 1$ so the Fermat numbers are relatively prime.
Note: This implies that there are infinitely primes for given any n Fermat numbers there are n distinct primes each of which divides one and only one Fermat number (because they are relatively prime).

unclassifiable ADS

- 1A _____ of the gods
 1J 21% of air
 2C sack material
 2J colourful flower parts
 3A these days it's monolithic
 3H open to view
 4E morning
 4H male singing voice
 4V musical syllable
 5A the _____ cola
 5F pages
 5I Pixie and _____
 6A result of crying
 6I indefinite article
 6L long bone
 7C human being
 7J football or water polo
 8A sine or tangent
 8H harvest goddess
 8M Hawaiian food
 9A norms
 9K type of committee
 10D finished
 10J yellow sapphire
 11A March 15
 11G Richard Starkey
 11M not old
 12A period of time
 12F Acapulco gold
 12I small
 13C man from _____
 13H sex gland
 13V morning
 14A watched on diets
 14L 100 plasters
 15A chic
 15I _____ Bruins, hockey team



WANTED: REPORTERS for mathNEWS. To hunt out and capture news of interest to mathies. For more details contact mathNEWS.

FOR SALE VEGA GT "LANDCRUISER". Entire car in "MINT" condition. Will certify. Car maintained flawlessly since new. MUST BE SEEN to be appreciated. Will sell fully equipped as above for highest offer. Will consider removing certain items to reduce price. Serious inquiries only, please. Contact: GARY, 247 ERR ST. W., suite 19, Waterloo. 579-0577.

Person required by laboratory for cleaning glassware approximately 2 hours/day, minimum wage. Apply in person MC 4027 Mr. Jan Zavitsky.

APARTMENT TO SURLET - summer '76, 3 bedrooms, 1-1/2 bathrooms, perfect for 4 people, sauna, laundry, The Greenbriar, near Westmount plaza, \$280/month, call 579-2408.

AVAILABLE IMMEDIATELY - We have room for one more in our house. Good location. 20 minute walk from campus. 444 Blythwood Place. 884-9463. Ask for Adam.

NEEDED - Two bedroom living accommodations for Jan - Apr term. Will accept any terms. Call 884-9463. Ask for King.

FOR SURLET: Jan 76 - Apr 76. 1-bedroom furnished apartment near University and Erb St. W. Suitable for two people. \$150/month. Dave, 885-2137

FOR SALE:
 MG MIDGET, 40,000 miles, new radials (2 of them snows), new leather interior, tape deck, Masseratti air horns, Carello quartz lamps, \$400, needs a safety. Call Gary Dryden at Mathsoc ext. 2324 or #884-9582.

WANTED REALLY BADLY:
 A town-house for the winter term. Call Gary Dryden at Mathsoc ext. 2324 or #884-9582.

To share- a 1 bedroom apt. (furnished) with one person \$82.50 or with two \$55. located near Victoria and Belmont in Kitchener. Contact Gary Prudence in the Mathsoc office. Available from now til April.

Jobs at Mathsoc

Sneaker: someone to control the mathsoc meetings especially during one of the many heated discussions.

Education Director: This is the information officer of Mathsoc and an automatic member of the Board of Education, Federation of Students.

Campus Centre Board: 1 rep.- information and nomination forms at the Secretariat's office at 'H (students services).

Sirriculum Committee: 1 rep. details at Mathsoc.

Wanted: Accomodation for 4 people in the upcoming winter term (Jan. - May '76) Will sublet or take over lease. Phone 416-634-2816 after 7:30 p.m. or write to: Michael Rose, 504 Indian Rd., Burlington, Ont. L7T 3T3.

math ETICS

Volleyball

The Math co-ed volleyball team played its second set of games on the night of Wednesday, October 15. When the captain (our new, dynamic, young, energetic, and intelligent, 2A co-ed mathSoc rep) didn't show up, things looked great. But when Kathy-X made her appearance, the outlook once again looked bleak.

However, the gloom lifted once again when it was realized by the alert and perceptive team that the opposition hadn't bothered to show up (either that or they didn't have enough girls- I don't know, I wasn't there). Anyhow they had to default to us (which doesn't make much sense since this is only co-ed so that none of the games count, and besides we only play for fun anyway). So, instead of going home with tears in their eyes because they didn't get to play their volleyball game this week, the Mathies gave the opposition (whoever they were) some of our girls, such as Irene, who isn't a Mathie anyway. Why we didn't give X away I'll never know.

So the game was played after all, and the consensus seems to be that we lost. Since I wasn't there, I don't know any of the X-citing details, so I'll skip that part. However,

Kathy-X complained violently and bitterly (she even threatened to quit the team....how could you do that to us Kathy?) about being unprovokedly (Ha! Ha! When did anybody ever do anything to you that was unprovoked?) molested all evening.

Anyhow, the next game will be held on Wednesday, October 29, on court 2, at 8:30-9:15. Be sure to turn up or out or in and maybe we'll win by default again!!

And now for a few words about Don H. Now, you may wonder about what Don has to do with volleyball. Well, I'll tell you. Not much. However, anybody who slanders my good name in his crummy little article has got to be mentioned here. And now that this little piece of business has been taken care of, here's the world renown.....

Kathy-X's Quote of the Week

"If he pays for it, he can do anything he wants to."

WOMEN in mathematics

WOMEN IN MATH: SOPHIE GERMAIN (1776 - 1831)

Sophie Germain, who has been called one of the founders of mathematical physics, was born in Paris on April 1, 1776. Sophie's family was relatively wealthy and could shield her from the revolutionary violence of late 18th century France. This meant long hours of solitude in her father's library where she came across the legend of Archimede's death. Reasoning that if geometry was so very engaging it must be worth exploring and starved for stimulation she was eager to investigate but her family opposed her decision believing wild stories of young girls who were too studious. They denied her light and heat for her bedroom and confiscated her clothing when she retired for the night in order to force her to sleep. But she wrapped herself in her quilts and using a hidden supply of candles would work all night at her books. Her parents finally relented and during the Reign of Terror, Sophie studied the calculus.

In 1794 the Ecole Polytechnique opened in Paris and although it did not accept women students Sophie collected the lecture notes of various professors. After having submitted a paper at the end of a course under the pseudonym M. le Blanc, the professor (Lagrange) was so impressed he found out her true identity and went to her home to praise her. She became

interested in Gauss' work and the two engaged in extensive correspondence, Sophie again using the pseudonym M. le Blanc. When the French Academy in 1811 offered a prize for the best paper on the vibrations of elastic surfaces, Sophie received the prize in 1816 but only after three submissions. This elevated her to the ranks of the most noted mathematicians and she now mingled with Cauchy, Legendre, Poisson and Fourier.

She also studied chemistry, physics, geography and history but is perhaps best known for her work in the theory of numbers, in particular with Fermat's Last Theorem. Even though Gauss and Sophie never met he recommended that the University of Göttingen award her an honorary doctor's degree but she died of breast cancer in Paris on June 26, 1831 before she could receive it. All things considered she was probably the most profoundly intellectual woman France has ever produced.

THEOREM: All men are bald.
PROOF: By induction. A man with no hair is certainly bald. And if a bald man grows one more hair, he is still bald. Therefore by induction, all men are bald.

Comment in Antical: "Professor X covered the subject extremely well. Whatever he did not cover in class, he covered on the final examination."

MYTH ETICS

HOTDOGS BROOMBALL AND WATERPOLO

Well it wasn't a good week for either of the HOTDOGS teams. On Monday night they lost 1-0 to the WHIZ KIDS in a game tainted with many obvious errors on both sides. In speaking to Coach LORRAINE SHERRÖD after the game, she said "x%blub zrf...". Ignoring the the smell of stale beer, that roughly translates into "I attribute the loss to the lack of conditioning. Why most of the players were so out of shape, just jumping over the boards was about all they could take. I could see in the pre-game exercises all was not going well as none of them were taking their elbow bending exercises seriously. Some of them failed to grasp the concepts of placing 10 consecutive bottles to ones lips. That will be rectified though, as there will be compulsory practices at my house every night this week to get them in shape. Practice starts after the 1st beer truck gets there.

The Waterpolo Team didn't do much better. Independent observers agreed that the score was either 37-14 for the HOTDOGS or 34-14 for ESS, but no one was quite sure as each side was claiming victory.

At the game's start DRYDEN and TOMY were bought off by ESS as they were short staffed (and were quickly denounced by the HOTDOGS as capitalistic insurgent pigs and as such had their party memberships revoked). In tough negotiations with the HOTDOG goal-keeper (who they'd stolen from the side of the pool and who in reality had been the life-guard), DRYDEN was re-instated as a HOTDOG and the goalie became an ESS STUD. The STUDS quickly scored 7 goals on great defensive lapses by DRYDEN and his invisible defensive squad. Whence DRYDEN was replaced in net by JOE and shoved up to forward. At this point HEATHER (ESS secretary) quipped, "Hell DRYDEN, you change teams and positions more often than your underwear". She was promptly drowned before she could be asked how she knew.

As usual LORRAINE played an excellent game with the help of Ernie and Bert (thats an inside joke, but you'd understand if you'd seen the words inscribed on her shirt, but guess anyway you'd probably be right. HINT: think dirty), and almost scored a goal.

Since it was her 1st time out, HEATHER decided she needed training wheels on her inner-tube. The only problem being that she chose DRYDEN as her training wheels. He spent most of the rest of the game with HEATHER sort of glued to his back (a monkey on his back?) and only his nose above water, as in the process of turning him into a set of training wheels, she lost her inner-tube. Being only 4'-2", she couldn't touch bottom and still breathe.

SEA-WHORES WATERPOLO

A statement from the coach at a press conference after the game: "Well I was pretty disgusted with the teams performance tonight. They were doing everything wrong, wrong, wrong. At no time did any of the girls try to hustle

any of the opposition, at no time did any of the guys try to hustle any of the girls. I don't know what this league is coming to. The only game when KATHY-X tried to damage the sex-life of one of the players (and it was one of our own at that).

The passes were so bad that I tried to trade IRENE to the opposition, for the standard waiver price (a submarine sandwich), but they said no because their submarine sandwiches played better waterpolo, and drank less. Things will improve though, as I have instituted the negative re-enforcement coaching technique. Every time a player messes up, I'm going to hit him/her over the head with a ball-pean hammer (except in JJ's case, I'll hit him in the toes). Thank you gentleman of the press."

FOOTBALL

AARDVARKS WIN IN HARD FIGHT DEFAULT

Well, there's not much you can say about a game that we won 1-0 by default against TFFT (Pug's team ---whoever or whatever a Pug is) so I'll just make a lot of it up.

With a bunch of guys just standing around looking stupid in all their football equipment (a MATH t-shirt) it was decided that a practice game was in order.

Not a hell of a lot was accomplished except a few old team grudges were resolved. It seems that Phil our center has become an unpopular fellow as every play he was being at least triple teamed (with the likes of "the Barber", Miles, Scrooge & whoever else never really liked him). In fact at one point they were drawing lots to see who would be able to attack him on the next play. Phil, maybe the boys would go easier on you if you knew how to snap the ball right.

The week before in a game against the previously undefeated Mount-Annites, MATH pulled the comeback of the season to win 18-12. With the absence of Dave Wright & Paul Noble (who just Monday was taken out of K-'H Hospital's Iron lung- and told to wear some sort of plastic thing around his neck for 6 months so his head wouldn't fall off) we had a green defensive backfield.

With five minutes left in the first half MATH was down 12-0 when Barkley scored a TD to make it 12-6. On the last play of the half QB John Karan looped a pass about 30 yards straight up and 30 yards down the field into a crowd and again Barkley picked it off for a TD to tie the game (you may have noticed the lack of converts --well we haven't got one in 5 games).

For some reason in the 2nd half the defense jelled (or more likely we got lucky) and stopped the MOUNT-ANNITES cold while our offense managed another TD to finish off the scoring.

CALCULATORS PLAY

Pocket calculators, designed originally to assist accountants and engineers, are rapidly becoming everyman's instant genie. Worldwide sales of these minicomputers are expected to top 13 million this year and are growing in the U. S. alone at the rate of 400% annually. As prices drop (one model was selling for only \$11 last week), consumers are snapping them up to check cost-per-unit prices at the supermarket, balance checkbooks, figure out tax returns and do their schoolwork. But all work and no play makes even a calculator a dull gimmick, and now the little machines are used as electronic Merlins.

The extracurricular role of calculators emerged as mathematically minded users found that the versatile devices could be used to play sleight-of-button games and spell words. Because on most calculators the glowing digits of the read-out screen, when inverted, look more or less like the letters of the alphabet, the calculator can use the machine to compose more than 100 words and endless riddles. For example, to get the calculator to devise words suggestive of the energy crisis: put 426.46407 into the machine, divide by 3 and multiply by 5. Upside down the machine spells SHELL OIL (the floating decimal separates the words). To greet a friend, you divide 98 by 7 to get 14. A greater challenge is to ask friends what a gold duffer and the movie Casablanca have in common. If you punch 2572, add 87 and multiply by 12, and then hold the machine upside down, it will spell BOGIE.

These are not the only games calculators will play. They can perform mathematical magic acts undreamed of by their designers. An example: take a figure that is double your age. Add 5. Multiply by 50. Add the amount of change in your pocket, up to \$1, and subtract the number of days in the year. Add 115. divide by 100. The calculator will display two numbers to the left of the decimal point, two to the right, showing respectively your age and the correct amount of money.

Already it looks as if "commedia della calculator" will fast become a national craze. Says James Rogers, an editor of Scientific American magazine: "I went through the stage of saying 'I don't need one these.' But once you get one, it's sheer bliss. To achieve BLISS, punch 441304, divide by 8 and add 15.

Council then quickly passed 2 other motions. One stated that general students on probation couldn't take an honours course if there was a general one available. The other required that Math students take a minimum of 2 math courses per term until their programme requirements were filled.

Shortly before adjournment, J.J. Long brought up the problem of the minimum five rule. He was accompanied by a general student who was prevented from dropping one of his 5 courses which he was failing. It was decided that the matter would be discussed at the next Standings and Promotions meeting. There are no student representatives on this committee, but student observers were invited to attend.

mathNEWS shall bring you more on this issue in the future. The next Faculty Meeting will be in a month's time.

The Day Stocker

NOTE : This article is NOT fiction, it is absolutely true with documentation available to back it up. Everyone has heard about the Devil's Triangle where there are so many unexplained losses of planes, boats, people and various things. What most people don't know is that there is another area on this globe which is even more dangerous in terms of losses and disappearances. This area is called the Devil's Sea and is exactly half-way around the world from the "Triangle".

During World War II, this region was the centre of intense fighting. But even accounting for the normal battle losses that go unreported, both sides (U.S. and Japan) had more losses in planes, ships, men and equipment than have ever been documented to occur in the "Triangle".

Most people know of the reliability of an atomic clock which uses one of the characteristic frequencies of the isotope cesium 133 to measure time (1 sec. = 9,192,631,770 cycles of vibration). There is no way to throw one of these clocks off, or is there?

The United States has a satellite tracking station on an island in the Devil's Sea; there is an atomic clock at the station which was calibrated to an identical clock back in the U.S.

Over a period of days the clock at the tracking station was observed to lose a few millionths of a second a day. This may not sound like much, until you consider that this clock is accurate to a few ten-billionths of a second.

Then suddenly, in the space of a single day, the clock 'sped up' and made up exactly all the 'lost' time.

Worried technicians checked the clock all through this incident, and there was absolutely nothing wrong with it.

Afterwards, another atomic clock was put in a room, deep underground and heavily shielded, beneath the island.

Again the loss of time over a period of days was observed, and the sudden gain of the missing seconds, on the surface clock. The buried clock however, WAS NOT AFFECTED.

Also during these temporal lapses, unusual weather, water and electro-magnetic conditions were observed.

Perhaps the disappearances in the Devil's Sea, and the Devil's Triangle, are due to a 'time warp'. Maybe it isn't that simple, I just plan on staying away from these two regions, before I too get 'lost in time'.

Coldshack

WANTED: FLOORS

Due to the little time left in this term a group of students from Lovola Campus, Concordia University in Montreal, will be visiting the math faculty in the winter term. These 40 students need accomodation (no meals) for the duration of their visit. If you have a floor, couch or bed available; come to the Mathsoc office and sign the list. You are then invited to help out as a host and participate in the planned activities.

MATH - arts WEEK

Monday

7pm M&C 3rd floor lounge
BRIDGE TOURNEY PRIZES!!

Tuesday

12 noon Humanities 280
SPELLING BEE Mathies vs. arties
PRIZE - Semi Formal ticket

Wednesday

12 noon M&C 3rd floor lounge
SLIDE RULE CONTEST - Prize Semi Ticket
8pm Wine & Cheese with Folk Singer
Tickets at Society Offices 50¢

Thursday

7pm AL 113 FREE MOVIE !!
To Be Annouced

Friday

8pm MC 5136 HALLOWE'EN PUB
75¢ with costume \$1.25 without

Saturday

**Convergence '75 Semi Formal
at the Concordia tickets
with Chelsea Morning \$10
tickets: ARTSOC & MATHSOC**



mathNEWS welcomes your criticisms, comments, suggestions, etc. All letters should be signed, but if requested, a pen name will be used. Put your Feedback articles in our MAILBOX on the 3rd floor outside the lounge, or mail it to us on the 'Bun (userid mathNEWS), or take it to M&C3038 and have it put in our mail slot or put it in the mail addressed to mathNEWS. M&C3038.

MC2017 BLUES

Some-one thought they had a bright idea. Put the math 132a classes on CRT's (surely they could be trusted, if anyone), and assign programming problems every two weeks. Everybody should be happy with that.

Unfortunately, the bright person did not realise that 32 terminals for 600+ students gave only a theoretical 5(five!!!) terminal-hours per week per student (it could be more if the beast down in the pit didn't need its beauty-sleep!!). Nowhere near enough for real experience.

And that magical figure of five hours remains theoretical. Few students can truthfully say that more than half of their terminal-time is productive. Many who bring reading material for the long wait for an unoccupied terminal get as much reading done at the terminal as waiting for it, waiting for "Archive"'s that prove "temporarily" unavailable, "Dearchives"'s which never come back, and "Run"'s which take forever.

I can sympathise with the poor little PDP-11, which simply cannot handle the load, but it really shouldn't have to.

D. Gillett

JJLONG

Disorganized is the only way to describe President Shortall's attempt to hold a Federation council dinner meeting at Food Services on October 8. With people eating and utensils clanging it was hard to tell what was going on. Councillors had to turn around in all directions in order to face other councillors. Food Services customers probably were wondering what was going in one corner of the Festival Room.

A few things were accomplished at the meeting though. The Budget was slightly reallocated in the Board of Education, with future reallocations to come in Entertain and Communications. Quorum was attained (it shows that council members will turn up when you feed them the information). Council members as well as Fed executives, Society presidents and social directors, and staff of the Boards of entertainment and Communications, are now allowed free admittance to Fed events. In order to facilitate Federation-Society contacts regarding course critiques a fieldworker will be appointed by Council under the Board of Education in order to look into this matter.

It is reported that the Board of Entertainment lost \$5000 on the circus they held on October 8 (no I don't mean the council meeting). Agreement seems to be near in Campus Centre Pub negotiations, though already the Feds have lost \$18000 on the Pub. I believe we have enough reserves to cover such losses. I don't feel Art Ram is in total fault for these losses as he has been constrained by the university. He should though answer to the council at the next meeting (it would be good for him or his representative to come to a meeting for a change). However I don't know when the next meeting will be.

I shall inform you of the next meeting when I find out when it will occur. However for me to do my job effectively I need your input. I can be reached at Mathsoc and the Fed. office and now on the Honeywell 9050 mail system. Remember it is your Federation, use it or it may use you.

Welcome to masthead 9.6...the sun as usual has risen.....
A!most nothing went right this issue...first we were cut off from our subscribers...then we discovered that 4 major assignments were due...our writers finished writing after our typists had given up from lack of work...the number of available terminals good enough to output final copy appeared to occupy the null set...and we discovered that when the bells start ringing in the bun's room that we are having hardware failures.....a fresh quote from someone else in the room "for whom the bell tolls" ...but all was not a disate...i take that back - even my typing is bad.....

mathNEWS is tossed together at irregular weekly intervals by an all volunteer staff. We are funded by mathSoc but the views expressed herein are the responsibility of the staff members. This weeks master copy will be placed in the hands of Graphic Services who will attempt to put 1100 copies of 10 pages in our hands to be randomly distributed.....

Now for our staff and assorted rif-raf.....jane gentleman supplied our calculations...coldback finally made it unlike Eashman....the equivalent of 28 cups of coffee and 41 hot dogs disappeared into the jaws of BOB flash THWAITES; STEVE who SPARKS some interest; MARK BRADER who made good his threat; MATTHEW why not a SMITH; by acclamation BRUCE MILLS; FRANK who resigned a problem; PAUL who drew some straight lines LEAR; STEVE who's Xing himself to an early grave RISTO; JODY ha! TRIVERS; CARY PRUDENCE a ticketed coral; PETER who was snowed under a FAYNHAM; another acclamnee DAVID W GILLETT;MPDILLON a long typist; RANDY MORRISON having problems; 2 page G.G.DRYDEN; 2 article J.J.JONG; INGRID checkmated SPLETISTOESSER; RANDALL aSSignment MCDUGALL; DONALD Actually HALLED coffee to & from MC3011;and DENNIS Jong day ahead MULLEN...

Other wanderers of the eve ...someone who wanted 1st year algebra help(we were hard pressed to find someone who knew the subject)...Germaine who came saw and went....the 2 hacks who saved us at 4am by getting the bun to do something useful.... the team from SciSoc who declared THE BARD to be dead and thus created a new science paper with a staff of 3 and some co-operation from mathNEWS...this is page 10...next issue in MC3011 on October 28th...all people with assignments on Wednesday...FINISH them EARLY...we want some terminals!!!

Odds & ends.....another fire alarm on friday oct 17 at 955hrs...mathSoc t-shirts should start arriving next week.... mathSoc has a new lock on the door(it was put on before the keys arrived)...persons recently acclaimed to mathSoc Council were David Gillett, Bruce Mills, Andy Mueller, Vivienne Lapointe, Gordon Swaters, Steve Risto
FLASH-----gary prudence has finally crackedup....X wants to be mentioned in the masthead...it is now 930hrsc

....and the person who borrowed the pinktie was INGRID TENZA.....antICAL coming in 2 weeks???????

goodnite!

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