



## Interview With Dr. Sultan (Continued)

**Q: What was the hardest college course for you? What made it difficult? What was the outcome?**

**A:** The further you go, the harder it gets. I found the probability course that I took as a freshman in college bewildering. After my freshman year, every year was the hardest. While all math courses had their difficult parts, probability never made much sense to me. There were too many loose ends. It didn't have the precision that regular theoretical math courses had. So the first time I took it, I dropped it. When I took it the second time I still couldn't resolve the issues and did not do well in the course. I went back several times over the years and reviewed the subject matter to see if I could resolve these issues. Even as a professional mathematician, I just couldn't! I took many hard courses and none of them came easily. I had to work in all of them.

**Q: What were the biggest obstacles you had to overcome to become a Mathematics professor?**

**A:** There were a lot of obstacles. The first is that my family members were not scholars. None of them went to college and in fact most never even made it to high school. I was expected to work in the family business when I graduated high school, just like the rest of them. When I announced my plans to go to college, I was faced with great resistance. I

ended up having to move out of my house and live in a dumpy hotel for a while. I was on scholarship at my school, so I didn't have to worry too much about the finances. Eventually I moved back and finished college, but there was always tension about it. My family couldn't conceive of my making a living as a teacher. They couldn't understand why I would forego a career in business, where I could make so much more money than teaching. The answer is that money does nothing for me. The satisfaction I get from helping people is worth a lot.

Another obstacle was a terrible professor I had, who I thought was sadistic and mean spirited. He seemed to get a thrill out of putting people down and he and I clashed big time. I did my work and passed his course, but his attitude stayed with me forever. I had a hard time divorcing the man's mean-ness from the mathematics he was teaching. This was really unfortunate because the material from that course was quite interesting. This professor was a BIG obstacle for me since he was one of the people I had to deal with closely when going for the advanced degrees and he really tried hard to make things tough for me. He irritated me immensely and tried to put up several roadblocks for me, but he wasn't going to push me down. The harder he pushed me down, the harder I fought back.

*"When you look back years from now, you will have a completely different perspective on grades and what they mean."*

There will always be people who try to discourage you and say you won't be able to do this or that. They really don't know. That is a decision you have to come to yourself. I always tell people of the time when my teacher called my parents to school to tell them that I should be put in a vocational program. Her assessment was that I would never succeed in an academic program. Luckily my parents didn't follow her advice!

If you really want to do something, you cannot let people stand in your way. You just look forward, work hard, do the best you can do, and you can do anything!

**Q: What pointers do you have for prospective and current TIME students for being successful in the program?**

**A:** I am glad you asked. The most important thing you can do is do your homework on a regular basis. If you fall behind, it will be very difficult to catch up. The material is very extensive. Even if you work hard, you may only just get through, but that is nothing to feel bad about. You tried your best. The reality is, in some courses you will do better than you will in others. That is just the way it is.

When you look back years from now, you will have a completely different perspective on grades and what they mean. What you will be left with is the knowledge that you worked hard, got a good education, and are where you wanted to be. That is a great feeling.

## My Cyberchase Summer By: Mary Raguseo (T-8)

It is with great pleasure that I share with you the amazing summer experience I had! If not to spread the word about the wonderful offerings of *Cyberchase* to future teachers, I hope I can motivate you to apply for potential internship opportunities. In what seemed to be a very short summer, I was lucky enough to be part of an out-of-this-world program in which I learned a tremendous amount.

The Emmy award winning *Cyberchase* is an animated series on PBS KIDS GO! that features a team of three children, Matt, Inez and Jackie, who use mathematics to outsmart a villain, Hacker, in an effort to save Cyberspace. The mission of the show is to improve children's (ages 8-12) math skills and to boost their confidence and enthusiasm about mathematics. I am happy to report that *Cyberchase* is accomplishing their goals. Research studies show that viewers understand and retain the math content in each episode.

I was amazed at all the information that research shows about the great effects of *Cyberchase*. For example, there was a study completed called "The Impact of *Cyberchase* on Children's Mathematical Problem Solving." Some of the highlights of this study included:

viewers outperformed nonviewers on problems that were previously presented in a shown episode or similar to the problem. That is, viewers answers to problems were more sophisticated than that of nonviewers, suggesting the great deal of learning that takes place during viewing. Also, when given pretests and posttests, viewers showed significant growth in certain aspects of problem solving. Keep in mind that the research conducted is very significant and designed in a way to fully test the effects of the show. More information, as well as activities, lesson plans, news and events, can be found on their Website at [www.pbskids.org/cyberchase](http://www.pbskids.org/cyberchase), in the "Parents & Teachers" section.

I was able to do a lot of exciting work as an intern. During the first week, I did a lot of production tasks such as sorting Web designs and putting them away for archive. This was really exciting. I had no idea how much work and time goes into a single episode! It was not until I attended an intern lunch and the staff really got to know me and what I wanted to get out of my internship that I had the opportunity to focus on

### Museum Exhibit

***Cyberchase: "The Chase is on"***

-New York Hall of Science.

-Now through January 21, 2008.

-For more info, visit [www.nyscience.org](http://www.nyscience.org)

the "math teacher" aspects of the show. *Cyberchase* achieves success partly because of a panel of teachers called "peer advisors" (including Dr. Curcio!) who review the math briefs and scripts before the episode is even created. The math teachers and experts give the writers feedback about the math content shown. For example: *Will the targeted age children understand the concepts we are trying to put forth? Are the math terms we are using comprehensible for the children? Will they learn what we are trying to teach them in this episode?*

My first project was to create a mailing for new peer advisors, who the producers wanted to recruit. The executive producer, Frances Nankin, felt that as a future math teacher, I would have a good understanding of what math teachers wanted to see in order to get them interested in the show. I put together a package including a letter, my favorite lesson plan from the website

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# My Cyberchase Summer (Continued)

that I felt teachers would definitely be interested in using, the *Cyberchase* Fact Sheet, a DVD of an upcoming episode, and a conclusion including all the research that has been conducted. I came up with the package by visually placing myself in a classroom and thinking about what I would want to see from *Cyberchase* in order to get me interested in their show and what I would want to use in my classroom. My thoughts were that if a teacher saw a fun lesson plan with a topic they have trouble teaching or that children have trouble grasping, they might be interested in trying the lesson and inevitably finding great interest in the show.

The lesson plan I chose was called "I'll Halve S'more, Please!" that teaches children about fractions. In my mind, fractions are difficult to understand. The lesson included showing parts of an episode and making "s'mores" which would definitely get your students' attention! These packages were mailed to the

came in, I was happy to see responses from a few teachers who loved the material sent and were enthusiastic about getting involved with the Cyberchase team.

Another big project that I worked on was doing thorough research on a potential partnership *Cyberchase* would like to form. Currently *Cyberchase* is experiencing great success from a traveling exhibit in museums all over the country. Because of this success, there is a possibility that they will look to partner with zoos across the country to come up with activities children can take part in at the zoo! My job was to see what is offered right now at zoos, what works for children, and what doesn't work for them. I spent weeks on the Internet looking at zoos and the math activities in which children would have fun participating in that can be modified to suit the needs of *Cyberchase*. I then contacted zoos that stood out as possible candidates for partnership. I spoke with so many wonderful peo-

I believe I got a great start to what could be a huge opportunity for math education and zoo partnership and expansion. I am excited to see where the outreach team takes all my findings.

I had an amazing summer. It was so incredible to see math education outside of the classroom and inside a Manhattan office. It was an inspiration to learn that math education exists in other facets of life and there are people who care as much about children as teachers do. I hope you take advantage of all that *Cyberchase* offers, especially all the opportunities that their Website creates to enhance the mathematics classroom.



## "We Need You, TIME 2000"! By: Kasey Luchan (T-7) and Sung Yan Chiu (T-9)

Dr. Alice Artzt started the TIME 2000 Program at Queens College to recruit future mathematics teachers straight from high school to help satisfy the shortage of quality mathematics teachers throughout the nation. However, after 10 successful years, is there still a need for the program?

The answer is a resounding yes! According to the National Center for Education Statistics, about 2.4 million teachers will be needed in the next eleven years because of teacher turnover, retirement, and rising student enrollment throughout the nation. The fallout from this shortage can be especially felt in the field of mathematics, especially in high-poverty schools.

According to the National Center for Education Statistics, nearly 34% of all teach-

ers leave teaching after three years, and almost 40% leave after five years. But TIME 2000 graduates buck the national trend, with only a 2.5% turnover rate after two years of teaching.

In order to lure quality mathematics teachers, like those molded by the TIME 2000 Program, school districts have begun to offer incentives to prospective teachers. In Guilford County, North Carolina, recruiters have offered \$10,000 to lure Algebra I teachers, one of largest recruitment bonuses in the nation. "We had schools where we didn't have a single certified math teacher," said Terry Grier, the Guilford County school superintendent quoted in the NY Times article, "With Turnover High, Schools Fight for Teachers," published on August 27, 2007.

New York City also offers special incentives for teachers certified in mathematics, science and special education, for those who do not wish to relocate to North Carolina. In order to recruit those teachers, NYC offers a \$5,000 housing down payment, which is a blessing in a city with an extravagant standard of living.

The need for quality mathematics teachers has reached an all-time high. With monetary incentives, and the intangible incentive of changing the lives of students everyday, there might not be a better time to enter the field of teaching.

Tutoring is not systematic; it is anecdotal. There is no checklist of ways to tutor a student, just a lot of people saying, "I had a kid like that once" and "this one time, I

## How To Tutor With MT4 By: Sarah Hofer (T-8)

tried this." Everyone who has tutored has an abundance of stories to tell about the students and parents they have helped. And we had plenty of stories to share on October 17<sup>th</sup> at TIME 2000's MT4 Club Tutoring Workshop.

TIME 2000's student club, **Today's Tutors Tomorrow's Math Teachers** is commonly known as MT4. This club at Queens College provides tutoring of middle and high school students both on campus and off. They also tutor college students who need help in their mathematics courses. The students in MT4 have a love for helping others and tutoring at reduced rates is one of the many ways to give back to the community. The added benefits for the tutors is that they form close friendships with one another and derive satisfaction from helping middle school, high school and college students learn mathematics while gaining teaching

experience.

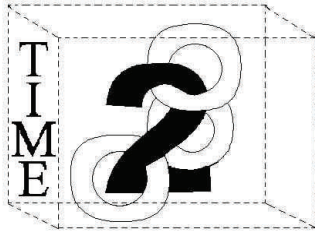
The workshop we held on October 17<sup>th</sup> covered a variety of topics, from tutoring etiquette to methods of teaching students different topics. We talked about how to work with parents, what to do about payment, how to set up sessions and how the club distributes jobs to tutors. As far as teaching methods, we talked about assessment, tutor confidence in the different levels of math, and tutor-tutee relations. The loyal upper-



classmen of MT4 were eager to share some of their stories and ease any of the underclassmen concerns about tutoring.

Overall, the workshop was fun and everyone had plenty of pizza and soda! The next MT4 event will be **Math Olympics** on Wednesday, November 28 during Free Hour. We'll play a game of Math Jeopardy with a lightning round, run through some mathematics riddles, and even do a round of Tanagrams! There will be plenty of food and fun, so join us by competing in our MT4 Math Olympics!!

# TIME 2000 Newsletter



If you would like to write an article, contact us via e-mail!  
**Alex:** Kube621@yahoo.com **Ferrin:** starling7788@aol.com

## Our Web Address

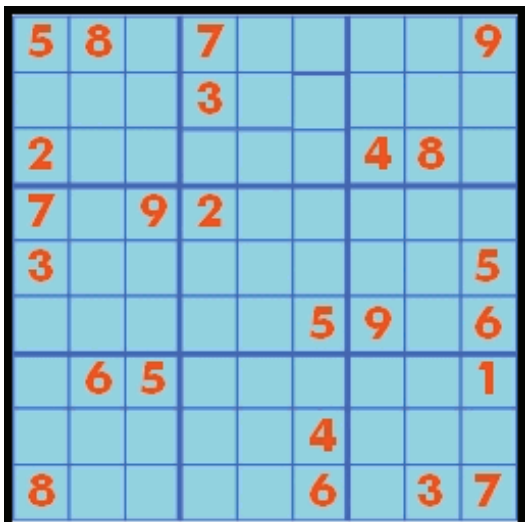
<http://time2000.qc.cuny.edu>

Test your mind! Try the puzzle!

## Sudoku

The objective of the game is to fill all the blank squares with the correct numbers. There are three very simple constraints to follow. In a 9 by 9 square Sudoku game:

- Every **row** of 9 numbers must include all digits 1 to 9 in any order.
- Every **column** of 9 numbers must include all digits 1 through 9 in any order.
- Every **3 by 3 subsection** of the 9 by 9 square must include **all** digits 1 to 9.



## Math In The Media

Seen On a Billboard in Kansas City, Missouri:

### Jack 105.1 FM

“More Music than Stations with Less”

### Final Jeopardy

“It’s an ellipse with an eccentricity of zero”

ALL 3 contestants got it correct! Did you?

Answer: “What is a CIRCLE?”



## Got Talent?

TIME’s got Talent and we know it! So come on down and join the show!

We’re planning to have our 1st annual TIME 2000 Talent Show this spring and the ideas have already begun to flood in!

**We need:** More ideas! Performers! MC’s! Staff to help write scripts! Help for Production! And more!

E-Mails will be sent over break! Join us in coming together in a fun and exciting new way we’ve never done before– with comedy, dance, musical performances, acting, instrumental talents and more! (if you want more information sooner, or want to help us plan, contact us!)

-Sabrina Colon (T-9) and Alexandria Kubic (T-9)

### TIME for Math Joke(S) Of The Month

-What do you get if you divide the circumference of a Jack-O-Lantern by its diameter? - Pumpkin Pi

### - Exam By Chance

## Math Ed Web Sites

<http://www.nctm.org>

National Council of Teachers of Mathematics

<http://nlvm.usu.edu/en/nav/vlibrary.html>

National Library of Virtual Manipulatives

<http://schools.nycenet.edu/d75/his/shack/mathematics.html>

Home Instruction Website

[http://www.youtube.com/watch?v=UTby\\_e4-Rhg](http://www.youtube.com/watch?v=UTby_e4-Rhg)

Hysterical You-Tube Video. A Math MUST-See

<http://vids.myspace.com/index.cfm?fuseaction=vids.individual&VideoID=2404879>

Humorous Mathematics Lesson shown on Television