The Mathematical Association of America





Annual Meeting of The Metropolitan New York Section Sunday, May 5, 2013 8:30 AM - 5:45 PM Farmingdale State College, SUNY



Mathematics Department Whitman Hall, Room 180 Tel: (631) 420-2182 Fax: (631) 420-2211

May 5, 2013

Dear MAA-Metro New York Conference Participants,

As the organizers of the Annual Meeting of the New York Metropolitan Section of the Mathematical Association of America, we would like to welcome all the participants to Farmingdale State College. The highlights of this year's conference include the two invited talks and a presentation from the design team of the National Museum of Mathematics. The contributed papers and posters include presentations that cover both pedagogical and research topics. There are also several presentations being made by students. Please support the presenters by attending one or more of the sessions and browsing through a few of the posters in the afternoon. We hope you will enjoy all aspects of the conference.

We want to express our gratitude to our Provost, Dr. Lucia Cepriano; our Department Chair, Dr. Carlos Marques; the speakers Dr. Alan Tucker of Stony Brook University and Dr. David Gleich of Purdue University; Glen Whitney, Cindy Lawrence and Tim Nissen of the National Museum of Mathematics; and the Chair of the Metropolitan New York Section of the MAA, Dr. Jerry G. Ianni. We also appreciate the contribution of those presenting at today's conference.

We would like to sincerely thank the Farmingdale College Foundation and Pearson for their financial support.

We look forward to a motivating, inspiring, and enlightening conference.

Best regards,

The Organizing Committee

THE MAA ANNUAL MEETING OF THE METROPOLITAN NEW YORK SECTION MAY 5, 2013

Farmingdale State College State University of New York

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8:30-9:30 AM	Registration and Refreshments	Roosevelt Hall		
8:45-3:30 PM	Book Exhibits	Roosevelt Hall		
9:30-9:50 AM	Welcome: Dr. Lucia Cepriano, Provost Farmingdale State College, SUNY Dr. Jerry G. Ianni, Chair, Metropolitan New York Section of the MAA LaGuardia Community College, CUNY	Roosevelt Hall Little Theater		
9:50-10:50 AM	Invited Speaker: The History of the Undergraduate Program in Mathematics in the United States Dr. Alan Tucker, Stony Brook University	Roosevelt Hall Little Theater		
10:50-11:00 AM	Break			
11:00-12:00 PM	Invited Presentation: Math Unleashed National Museum of Mathematics Design Team Glen Whitney, Co-Executive Director, National Museum of Mathematics Cindy Lawrence, Co-Executive Director & Chief of Operations, National Museum of Mathematics Tim Nissen, Chief of Design, National Museum of Mathematics	Roosevelt Hall Little Theater		
12:10-1:25 PM	Lunch (with time to visit the book exhibits)	Roosevelt Hall MPR		
1:30-1:55 PM	Business Meeting and Awards Ceremony	Little Theater		
2:00-3:00 PM	Invited Speaker: How Does Google Google? A journey into the wondrous mathematics behind your favorite websites Dr. David Gleich Purdue University	Roosevelt Hall Little Theater		
3:15-5:35 PM	Contributed Papers Sessions: Pedagogy Session Mostly Research Session Miscellaneous Session Faculty/Student Session	Gleeson 320 Gleeson 338 Gleeson 339 Gleeson 324		
3:15-5:35 PM	Contributed Poster Session	Gleeson 339 Hallway		
3:00-5:45 PM	Hospitality	Gleeson 339 Hallway		

PRESENTATION ABSTRACTS AND PRESENTER BIOGRAPHIES

THE HISTORY OF THE UNDERGRADUATE PROGRAM IN MATHEMATICS IN THE UNITED STATES

DR. ALAN TUCKER, STONY BROOK UNIVERSITY

ABSTRACT

The undergraduate program in mathematics in America has had a punctuated evolution. The Mathematical Association of American was organized in 1915 at the end of a period of dramatic rethinking of American education at all levels, one product of which was the introduction of academic majors in higher education. The mathematics major was static in its first 40 years, followed by great changes from 1955 to 1975, and then a period of relative stability to the present. This talk is based on a paper solicited by the MAA as part of its 100th anniversary activities.



SPEAKER BIOGRAPHY

Alan Tucker received his Ph.D. from Stanford in 1969 and has been at Stony Brook University ever since. He has been involved in many national and regional projects to improve undergraduate mathematics education. He has served the MAA in numerous roles, including First Vice-President, Chair of the Publications Committee and founding Chair of the Education Council. He has been a recipient of the MAA Award for Distinguished Teaching of Mathematics and MAA Award for Meritorious Service. He is a Fellow of the American Mathematics Society and a Fellow of the American Association for the Advancement of Science.

HOW DOES GOOGLE GOOGLE? A JOURNEY INTO THE WONDROUS MATHEMATICS BEHIND YOUR FAVORITE WEBSITES DR. DAVID F. GLEICH, PURDUE UNIVERSITY



ABSTRACT

We all Google. Some of us Yelp, Netflix, Tweet, and Facebook too. What you may not know is that behind the Google search engine and other search websites is beautiful and elegant mathematics. In this talk, I will try to explain the workings of page ranking, search engines, and recommenders using only rusty calculus.

SPEAKER BIOGRAPHY

David Gleich is an assistant professor in the Computer Science Department at Purdue University. His research is on high performance and large scale

mathematical methods for analyzing data from internet problems such as page ranking and social network analysis, as well as large scale datasets generated in scientific simulations. He held the John von Neumann post-doctoral fellowship at Sandia National Laboratories in Livermore CA before joining Purdue in Fall 2011.

MATH UNLEASHED

NATIONAL MUSEUM OF MATHEMATICS DESIGN TEAM GLEN WHITNEY, CO-EXECUTIVE DIRECTOR, NATIONAL MUSEUM OF MATHEMATICS CINDY LAWRENCE, CO-EXECUTIVE DIRECTOR & CHIEF OF OPERATIONS, NATIONAL MUSEUM OF MATHEMATICS TIM NISSEN, CHIEF OF DESIGN, NATIONAL MUSEUM OF MATHEMATICS

ABSTRACT

Sequences of symbols on a page hold singular power to express the ideas of mathematics with precision and rigor. Yet are they sometimes ironically an obstacle to transmitting those ideas to new initiates of math? Might other modes of presentation sometimes convey the essence of mathematics more intuitively? The design team of the National Museum of Mathematics will discuss the process they used to create hands-on exhibits with broad public appeal, taking several exhibits designed for the Museum as case studies.









CONTRIBUTED PAPER AND POSTER SESSIONS: 3:15 - 5:35 PM

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Pedagogy	Sessio	n	Gleeson 320
Pre	sider:	Jessica Bosworth, Nassau Community College	
3:15 p.m.	Quicl	and Easy Ways to Factor Quadratic Functions	

Emad Alfar, Nassau Community College Chia-ling Lin, Nassau Community College Daniel Ness, Dowling College

Most of the traditional methods used in factoring quadratic functions are laborious and time-consuming. We will discuss two non-traditional methods that are simpler and quicker.

3:35 p.m. What's Math Got To Do With Gangnam Style? Myung-Chul Kim, Suffolk County Community College Alexander Atwood, Suffolk County Community College Jerry Chen, Suffolk County Community College

Gangnam Style is the most popular music video on YouTube with over 1.47 billion views as of March 2013. In our talk, we use mathematics to quantitatively analyze the hypnotic structure of the musical rhythm, the deep underlying economic themes, and the arresting visual aspects of the video.

3:55 p.m. An Unconventional Approach to Teaching and Learning Mathematics *Alexander Vaninsky, Hostos Community College*

It is suggested to teach mathematics by directly impacting student brain aimed to form specific mathematics - related knowledge centers. Among the new teaching tools are exercises for memory development, meditation, sleep learning, hypnosis, and memory improving medications. The role of instructional technology is stressed. The presentation introduces a recent publication of the author in the MathAMATYC Educator, and is in line with the recently announced nationwide Brain Activity Map project.

4:15 p.m. Introducing Calculus to the High School Curriculum: Curves, Branches and Functions

Andrew Grossfield, Vaughn College

This discussion will provide an intuitive concrete definition of the word function as used in an introductory calculus course acceptable to engineers and mathematicians which will clarify the need for calculus in the STEM curriculum. The plan is to interpret the concepts of calculus either visually as branches of continuous smooth curves as was done in Analytic Geometry or algebraically as one variable continuously controlling a second variable.

4:35 p.m. Protecting Social Security Numbers from Identity Theft

Yajun Yang, Farmingdale State College

This presentation illustrates an interesting method to protect Social Security Numbers (SSNs) and prevent identity theft in a Discrete Mathematics course. Students can encrypt SSNs to generate other unique numbers that can be used for non-social security purposes such as student identification cards (IDs). We will give a computer demonstration to show how we encrypt SSNs into IDs, and then recover the SSN from the ID number. Therefore, there would be no need to store SSNs in the computer system.

4:55 p.m. Understanding the Roots of Cognitive Illusions: An Approach to Teaching Faculty How to Improve Students' Quantitative Skills Frank Wang, LaGuardia Community College

Cognitive scientists have documented many biases and misconceptions when ordinary people make intuitive predictions and judgment. We report our empirical finding revealing that even in the math classroom, where students are hypothesized to be more cautious, there are still systematic errors in performing quantitative tasks, e.g., judging fuel efficiency and estimating probability. We will review the dual processing theory of reasoning and explain why some problems trigger impulsive yet erroneous responses. We will share materials for educators to motivate students to develop the disposition to resist reporting the response that springs impulsively to mind.

5:15 p.m. Why Do I Need Math?

Nadia Benakli, New York City College of Technology

The presenter will share some of the teaching techniques that she uses in her classes to motivate students to learn math and acquire general education skills and values.

Mostly Research Session

Gleeson 338

Presider: Heather Huntington, Nassau Community College

3:15 p.m. A Catalogue of First Examples or Counterexamples in Elementary Number Theory Exhibiting Novel Behavior Jay L. Schiffman, Rowan University

Numbers often exhibit personalities unique to themselves revealing novel or dynamic phenomena. We focus on some numbers that serve as initial examples or counterexamples exhibiting particular behavior in elementary number theory. We determine special properties unique to the number 127 and why 196 appealing in its own right. Interesting properties are prevalent in the Fibonacci numbers 144, 2584 and 102334155 and the integers 12, 945, 11025, 15015, 81081 and 5391411025 are useful as well. The prime numbers 1006301 and 1154454311 initiate special phenomena and the primes 22439962446379651 and 20831323 are exciting. Join us to engage in an exciting number theoretic journey.

3:35 p.m. Analysis of Gene Expressions Using Up-Down Sequences of Permutations Sanju Vaidya, Mercy College

We will describe modifications of the research methods of Willbrand et al and Ahnert et al for identifying significant genes in the biological processes studied in microarray experiments. We will compute the probabilities of up-down signatures of microarray curves defined by Willbrand et al and a certain bound of Ahnert et al using Foulkes' method for enumeration of permutations with prescribed up-down sequences and the hook length formula of Frame et al.

3:55 p.m. The Forward Error Analysis of the Extended Iterative Refinement Algorithm *Abdramane Serme, Borough of Manhattan Community College*

In this presentation we aim to discuss the forward error analysis of the extended iterative refinement algorithm used to compute the accurate solution of an ill conditioned linear system. The talk will cover the notions of additive preconditioning, Schur aggregation, and the Sherman-Morrison-Woodbury formula. The goal is to use the error bounds in the steps of the extended iterative refinement algorithm to provide a bound of the forward error of the algorithm.

4:15 p.m. On An Extension of Wilkinson's Iterative Refinement or Improvement Algorithm

Abdramane Serme, Borough of Manhattan Community College

The goal of this presentation is to share with the audience the main result of my paper published in the International Journal of Numerical Methods and Applications (IJNMA). I will discuss the proof of the following proposition. If $c(k)condC.u < \rho < 1$, then the matrix $C + E_k$ is nonsingular and

 $(C + E_k)^{-1} = (I + F_k)C^{-1}$ where $||F_k|| \le \frac{c(k)condC.u}{1 - c(k)condC.u}$. The matrix E_k is the perturbation to the matrix

C and an extension of Wilkinson's iterative refinement algorithm is used to solve the matrix linear system $CW_k = U_k$ where $C \in C^{n \times n}$ is a nonsingular matrix.

4:35 p.m. The Mean Value Theorem for Integrals Constructivized

Barbara A. Lawrence, Borough of Manhattan Community College

The purpose of this paper is present and prove the constructive version of the Mean Value Theorem for Integrals. In the spirit of the philosophies of LEJ Brouwer and Errett Bishop, a short summary of constructive mathematics, in particular calculus will be given. Constructive mathematics gives numerical meaning to definitions, concepts, and theorems. Several of the theorems in classical calculus are existence theorems and lack methods for finding the quantity being described. The constructive methods focus on rewriting these theorems to a form which is constructive and then provide a proof for this constructive form. The results of the constructive version is applicability to other fields such as computer science, economy, engineering and applied mathematics.

4:55 p.m. When the Universal Parabolic Constant met a Hyperbolic Cousin!

Sylvester Reese, Queens Community College (Retired Teacher)

We give a close encounter of parabolas and equilateral hyperbolas. See A103711 and A222362 in OEIS (The On-Line Encyclopedia of Integer Sequences) for a Preview or Trailer.

5:15 p.m. On the Change of Variables in Multiple Integrals

Fotios Paliogiannis, St. Francis College

In this paper, we use the polar decomposition rather than elementary transformations (as most proofs do) to prove the linear change of variables formula in multiple integrals. A rather short and simple proof for the nonlinear case follows then by a linear approximation. Various improvements of the formula are also considered.

Miscellaneous Session

Gleeson 339

Presider: Janis Mazza, Nassau Community College

3:15 p.m. The Implementation of Peer-Led Team Learning Workshops in STEM Courses *A.E. Dreyfuss, New York City College of Technology Janet Liou-Mark, New York City College of Technology Students: Frederic Anglade, Khalil Rouchdy, Awolou Sossa*

Peer-Led Team Learning (PLTL) is a vibrant instructional model to support students in STEM courses at New York City College of Technology. This engaging learning environment has resulted in increased pass rates and persistence rates for students in sections where faculty adopt its use. Perspectives from new and experienced student peer leaders will be presented. This project is supported by MAA Tensor Foundation and the Black Male Initiative Program.

3:35 p.m. The Navigation by Mentoring and Leadership Project: Empowering Women through Peer-Led Workshops Reginald Blake, New York City College of Technology A.E. Dreyfuss, New York City College of Technology Sandie Han, New York City College of Technology Reneta Lansiquot, New York City College of Technology Janet Liou-Mark, New York City College of Technology Students: Mursheda Ahmed, Carolina Mata, Denice Santos, Karmen Yu, Suhua Zeng

The Navigation by Mentoring and Leadership Program at New York City College of Technology supports a community of women majoring in STEM. The key component of the program is to create a vibrant community of women leaders. Experiences from leading Peer-Led Team Learning workshops and attending Leadership Seminars will be presented. This program is supported by an MAA Tensor Foundation Grant.

3:55 p.m. Summer Bridge Programs: Preparing Minority STEM Students for the First Year of College

A.E. Dreyfuss, New York City College of Technology Janet Liou-Mark, New York City College of Technology Students: Jodi Ann Young, Karmen Yu

Summer bridge programs have been an increasingly popular intervention in strengthening the academic performance of underrepresented students in STEM and orienting them to college life. At New York City College of Technology, a summer bridge program supporting first-year students provides students with an opportunity to prepare for their first credit-bearing mathematics course, to learn how to navigate the college system, and to be involved in a community of faculty and peers. This project is supported by NSF Math Science Partnership Grant #1102729.

4:15 p.m. When is the Derivative of the Interior of a Geometric Figure Equal to its Boundary?

Mohammad Javadi, Nassau Community College Ron Skurnick, Nassau Community College

In this presentation, we consider several examples to demonstrate that (1) if G is a geometric figure in which a circle of radius r can be inscribed, then the derivative of the area of G with respect to r is its perimeter; and (2) if H is a geometric figure in which a sphere of radius r can be inscribed, then the derivative of the volume of H with respect to r is its surface area.

4:35 p.m. Aviation Navigation and Mathematics Chris Roethel, Nassau Community College Mahmood Pournazari, Nassau Community College

We will discuss some of the current methods of aviation navigation and how mathematics plays an important role in VOR, GPS navigation and the new mandate for ADS-B.

4:55 p.m. Developing a Strong Undergraduate College Student Research/Mentoring Program in a Department

Abdramane Serme, Borough of Manhattan Community College

Many have thought that students in communality colleges are not able to conduct research in mathematics since it is well known that students come to community colleges immature, unprepared (Brock, 2010), to do college work. Student mentoring (by faculty) programs have been a huge success in the mathematics department of BMCC over the past few years. This talk aims to show how we cultivate success so that other colleges may develop and run a strong and successful student research/mentoring program.

5:15 p.m. Statistics As A Hybrid Course – Is It Effective?

Sreedevi Ande, LaGuardia Community College

This paper investigates students' performance in traditional and hybrid Elementary Statistics courses at LaGuardia Community College. For this study, same homeworks, quizzes, tests, projects, and final exam were given to both sections and students' performance was analyzed. Both sections of the course required the same textbook, online education and the same statistical software package. This study will answer the research question, 'Is the Statistics Hybrid model as effective as the Traditional model?"

Faculty/Student Session

Gleeson 324

Presider: Angela Oglesby, Nassau Community College

3:15 p.m. Properties of the Arbelos Derived from Its Parabolic Analog, the Parbelos *Jonathan Sondow, New York City*

The arbelos is a classical geometric shape bounded by three mutually tangent semicircles with collinear diameters. In a note in the Monthly, I introduce a parabolic analog, the parbelos, and prove several properties of it. I will use them in this talk to demonstrate some new properties of the arbelos. One is that the circumcircle of the cusp-midpoints rectangle of the arbelos passes through the center of the upper semicircle. A preprint is at http://arxiv.org/abs/1210.2279.

3:35 p.m. Crash Course in Basic Finance

Ron Smith, Farmingdale State College (student) Carlos Marques, Farmingdale State College (advisor)

I will introduce the idea of a "time diagram", which is a heuristic used to visualize the time value of money. I will then combine this heuristic with basic financial formulas to solve a more complicated problem: a loan where the periodic repayments vary over time.

3:55 p.m. Method of Images and Virtual Pascal's Triangles

Chris McCarthy, Borough of Manhattan Community College Johannes Familton, New Community College

We apply techniques from the physics of electrostatics (i.e. virtual charges to solve Poisson's Equation for the scalar electric potential) to solve the classic Ballot Problem from combinatorial probability. Our fairly visual proof involves path counting via the usage of virtual Pascal Triangles (analogs of the virtual charges from the physics).

4:15 p.m. Mathematics of Finance, the Eigenway Ron Smith, Farmingdale State College (student and co-author) Loucas Chrysafi, Farmingdale State College (co-author) Carlos Marques, Farmingdale State College (advisor)

I will construct a 2x2 matrix with a single parameter, and introduce the idea of an "investment vector". By repeatedly applying this matrix to the vector, I will show how basic financial formulas can be derived. Finally, I will show that this matrix is similar to a diagonal matrix which can easily be raised to higher powers.

4:35 p.m. Polynomial Regression with Linear Algebra and the TI N-spire Calculator *Armen Baderian, Nassau Community College Mohammad Javadi, Nassau Community College*

The regression analysis is defined within an m-dimensional Euclidean vector space. A matrix algebra derivation of the coefficients of an nth-degree polynomial is presented. The TI N-spire is applied to derive a Gram-Schmidt equivalent basis of an (n+1)-dimensional subspace, and the solution vector is obtained by matrix multiplication which provides the coefficients of the approximating polynomial.

4:55 p.m. Special Summation Using Number Theory

Yi Ming Yu, New York City College of Technology (student) Satyanand Singh, New York City College of Technology (advisor)

Using number theory proves the special trigonometric summation, which is not considered in Sury's paper of "Nothing Lucky about 13."

5:15 p.m. Bitcoin Buzz: Teachable Math in Virtual Currency Phenomenon

Maryam Vulis, York College

Many virtual currencies based on cryptographic protocols have been proposed since 1990s. Bitcoins are the most popular example gathering much mass media attention. This presentation will discuss several mathematical aspects of virtual currencies, and Bitcoins in particular.

Poster Session

Gleeson 339 Hallway

Presider: Emad Alfar, Nassau Community College

Random Number Generators

Debra Wakefield, Suffolk County Community College

September 2011, IEEE reported on Intel's New Random-Number Generator. This new random-number generator uses digital circuits to stump the smartest hackers. This has actually been an old problem, dating back to 1995. Then, the secret keys Netscape was using weren't random enough. They were strings of only 40 bits. Given the number of bits, there were around a trillion possible number combinations. That may seem like a lot, but hackers were able to break these codes, even with mid-1990s computer speeds, in about 30 hours. How does this new Random-Number Generator work? It starts by collecting the mostly random output of the two inverters 512 bits at a time. Further circuitry then breaks each package of 512 bits into a pair of 256-bit numbers. Of course, if the original 512 bits aren't completely random, those 256-bit numbers won't be completely random either. So, they can be mathematically combined or conditioned in such a way as to produce a 256-bit number that's closer to that ideal.

Response of Human Brain to Color

John Balat, Farmingdale State College (student) Eric Narciso-Molina, Farmingdale State College (student) Nolan Vegh, Farmingdale State College (student) Susanna Narinesingh, Farmingdale State College (student) Eric Anastasio, Farmingdale State College (student)

The project team recorded and mathematically analyzed the evoked potentials in a human brain responding to various colors in visible spectrum that were displayed on a computer screen in front of the subject. The presentation includes the samples of recorded evoked potential signals produced in the human brain responding to different colors and the results of the mathematical analysis of those signals using the Fourier Transform methods; the study focused on the anticipated changes in brainwave signals (alpha, beta, delta, gamma, theta) depending on the specific colors.

Distinct Circulation of Influenza Virus in Geographically Diverse US Air Force Installations

Ravi Vaidya, New York University (student) Project Affiliation: Columbia University Medical Center

The circulation characteristics of the Human Influenza A Virus are quite complicated due to the many subtypes and their variations. The RNA sequences of Influenza A, in particular those that are coming from the United States Air Force (USAF), were compiled from the 2007-2008 flu season. Results suggest that spatial circulation of influenza virus within the USAF and around the globe is rapid and geographically diverse. In addition to worldwide seasonal strains, strains primarily circulating within the USAF population exist. Moreover, there is clear correlation between some USAF and Civilian isolates, illustrating an impact by the highly mobile population of the USAF to the global spread of influenza.

Game based Learning using Cryptography

Nancy Champion, Mercy College (student) Caitlin Maggi, Mercy College (student) Lisette Valdovinos, Mercy College (student) Sanju Vaidya, Mercy College (mentor)

Math is one of those subjects that can be daunting to learn and at times downright boring. After researching several effective games in a math classroom we developed a game using cryptography. Using this game in a "live" setting at a local high school we discovered that games gave students a new exciting way to think about Math.

Analysis of Economic Indicators for Restaurant Industry

Caitlin Maggi, Mercy College (student) Diana Galvan, Mercy College (student) Frank Rodriguez, Mercy College (student) Sanju Vaidya, Mercy College (mentor)

In this project we studied the effects of the major economic indicators on the cyclic behaviors of the restaurant industry. Okun's law uses GDP and unemployment rate which are two of the major economic indicators we studied.

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CONTRIBUTED PAPER AND POSTER SESSIONS ORGANIZING COMMITTEE

Emad Alfar, Nassau Community College (co-chair) Chia-Ling Lin, Nassau Community College (co-chair) Agnes Kalemaris, Farmingdale State College Matthew Leingang, New York University

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METROPOLITAN NEW YORK SECTION OF THE MAA

TREASURER'S REPORT May 5, 2013

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Accounts *	Balance	Balance
	(05/05/13)	(05/05/12)
1. Business Checking	10,838.24	10,101.77
2. Business Money Market Account	16,279.60	2,271.30
(5,000 Funds Transfer from Savings to Checking, 07/13/12)		
3. 6-Month Business CD	1,761.09	20,741.99
(19,000 Funds Transfer from CD to Savings, 07/13/12)		

Withdrawa	Is - Business Checking Account	(05/05/12 - 05/	/05/13)
Check #	Description	Amount	Date
808	Farley Mawyer	3156.50	04/05/12
	(reimbursement for use of theatre for 'Truth Values' program)		
809	Unexpected Theatre	600.00	04/05/12
	(deposit for May 5, 2012 performance of 'Truth Values')		
810	Abraham Mantell (meeting 'give-away' items)	468.71	05/07/12
811	Abraham Mantell (50 booklets, Graph Theory Fund)	95.00	05/07/12
812	Farley Mawyer (reimbursement for post-meeting dinner)	663.71	05/07/12
813	Armen Baderian (name-badge clips)	156.40	05/07/12
814	Ron Skurnick (registration table assistant)	100.00	05/07/12
815	Sandra Kingan	100.00	05/07/12
	(honorarium from Metro New York Section Graph Theory Fund)		
816	Jonathan Cutler	100.00	05/07/12
	(honorarium from Metro New York Section Graph Theory Fund)		
817	Abraham Mantell (plaques # 14856)	140.00	05/21/12
818	Abraham Mantell (laser pointer metal pen # 5805616)	705.38	05/21/12
819	Abraham Mantell (booklets invoice # 17923)	254.50	05/21/12
820	Abraham Mantell (booklets invoice # 18055)	190.00	05/21/12
821	Abraham Mantell	120.00	05/21/12
	(Graph Theory Notes booklets, 50 sets, check # 2588)		
822	MBJ Food Services	1,800.00	05/27/12
823	Unexpected Theatre	600.00	05/31/12
	(balance for May 5, 2012 performance of 'Truth Values')		
824	Aladdin Food Manag. Services (2012 delegate assembly)	262.80	10/23/12
825	Raymond N. Greenwell (reimbursement for Putnam mugs)	117.86	01/08/13
826	Raymond N. Greenwell (reimbursement for Putnam mugs)	11.62	01/25/13
827	United Copy (Graph Theory Fund, GTN 62, 50 copies)	95.00	02/14/13
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* All with JPMorgan Chase

Deposits - Business Checking Account	(05/05/12 - 05/05/13)	
Description	Amount	Date
Deposit (pre-reg. 61 checks for \$1580 and cash \$90, walk-in 40 checks for \$1435 and publishers 2 checks for \$380)	3, 485.00	05/14/12
Deposit (Metropolitan New York Section of MAA Graph Theory Fund)	60.00	05/21/12
Deposit (reimbursement for registration and returned check fee)	42.00	09/01/12
Deposit (Subvention 2012)	1,838.00	09/01/12
TOTAL	. 5,425.00	

GRAPH THEORY FUND METROPOLITAN NEW YORK SECTION OF THE MAA

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Accounts * (Business Checking Account)	Balance	Balance
	(05/05/13)	(05/05/12)
Graph Theory Fund Metro NY Section of the MAA	565.00	920.00
(Business Checking Account)		

Withdrawals – from Metro New York Section of the MAA (Business Checking Account)		(05/05/12 - 05/05/13)	
Check #	Description	Amount	Date
811	Abraham Mantell (50 booklets, Graph Theory Fund)	95.00	05/07/12
817	Sandra Kingan	100.00	05/07/12
	(honorarium from Metro New York Section Graph Theory Fund)		
818	Jonathan Cutler	100.00	05/07/12
	(honorarium from Metro New York Section Graph Theory Fund)		
821	Abraham Mantell	120.00	05/21/12
	(Graph Theory Notes booklets, 50 sets, check # 2588)		
	TOTAL	415.00	

Deposits – to Metro New York Section of the MAA (Business Checking Account)		(05/05/12 -	05/05/13)
Description		Amount	Date
Deposit (Metropolitan NY Sec. of the MAA Graph Theory Fund)		60.00	05/11/12
	TOTAL	60.00	

* All with JPMorgan Chase

MAA METRO NEW YORK SECTION OFFICERS

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Section Governor	Dan King	(914) 395-2424
(2011 – 2014)	Sarah Lawrence College	dking@sarahlawrence.edu
Chair	Jerry G. lanni	(718) 482-5739
(2012 –2015)	LaGuardia Community College (CUNY)	iannije@lagcc.cuny.edu
Chair-Elect	Elena Goloubeva	(516) 671-2215 x111
(2012 –2015)	Webb Institute	egoloubeva@gmail.com
Secretary	Emad Alfar	(516) 572-7383 x 26865
(2009 – 2015)	Nassau Community College (SUNY)	Emad.Alfar@ncc.edu
Treasurer	Mohammad Javadi	(516) 572-7383 x 26882
(2006 – 2015)	Nassau Community College (SUNY)	javadim@ncc.edu
Vice-Chair for Four-Year Colleges	Janet Liou-Mark	(718) 260-5929
(2012 –2015)	NYC College of Technology (CUNY)	jliou-mark@citytech.cuny.edu
Vice-Chair for Two-Year Colleges	Chia-Ling Lin	(516) 572-7383 x 26866
(2012 –2015)	Nassau Community College (SUNY)	Chia-ling.Lin@ncc.edu
Vice-Chair for High Schools	Ken Gittelson	(718) 279-6500
(2012 –2015)	Benjamin Cardozo High School	kgitt@optonline.net
Math Fair Chair – NYC	Randy J. Asher	(718) 804–6500
	Brooklyn Technical High School	rasher@schools.nyc.gov
Math Fair Chair – Long Island	Joseph Quartararo	(631) 584-2016
	Northport-East Northport Public Schools	cmleague@optonline.net
Speakers Bureau Chair	Abraham S. Mantell	(516) 572-7383 x26841
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