

## Summer Professional Development in Math

Our complete catalog of summer professional development is now accessible online. Space is limited in many of the courses, so registering early will ensure that you won't be closed out. Course descriptions and schedules are printed on pages 4 through 7 of this issue of *Figures* or you can visit: <http://schools.nycenet.edu/offices/teachlearn/mathematics/MathPD.doc>

### Mickelson ExxonMobil Teachers Academy: Opportunities for Teachers to Attend the 2009 Program



The Mickelson ExxonMobil Teachers Academy offers elementary school teachers a chance to attend their 2009 Academy to improve math and science teaching skills. Students can nominate teachers from **Grades 3, 4, and 5** or urge them to apply for an all-expense paid trip to the Academy's math and science professional development program by logging on to [www.sendmyteacher.com](http://www.sendmyteacher.com), an interactive website.

Developed in conjunction with the National Science Teachers Association and Math Solutions, the Mickelson ExxonMobil Teachers Academy enables teachers to hone their science and math teaching skills, enhance their curricula, and discover innovative new ways to inspire students. The teachers will spend five days next July (2009) at the Liberty Science Center in Jersey City, NJ, deepening their understanding of mathematics and science content, building expertise in facilitating student learning through problem solving and inquiry, and using links between math and science that support student learning and understanding in the classroom.

Teacher applications are due by October 31, 2008. The National Science Teachers Association and the National Council of Teachers of Mathematics will convene a panel of math and science experts to evaluate the entries and announce the selections in February 2009. The 2008 Mickelson ExxonMobil Teachers Academy will host more than 600 teachers in Houston, Texas; Baton Rouge, Louisiana; and Jersey City, New Jersey. To date, nearly 1000 teachers have attended the Mickelson ExxonMobil Teachers Academy. To nominate a teacher or to learn more about the program, visit [www.sendmyteacher.com](http://www.sendmyteacher.com)

## Puzzle of the Month

### 100 PROBLEM

SEPARATE 100 INTO FOUR NUMBERS, SO THAT BY: ADDING 4 TO THE FIRST, SUBTRACTING 4 FROM THE SECOND, MULTIPLYING THE THIRD BY 4 AND DIVIDING THE FOURTH BY 4, *ALL THE RESULTS WILL BE THE SAME.*



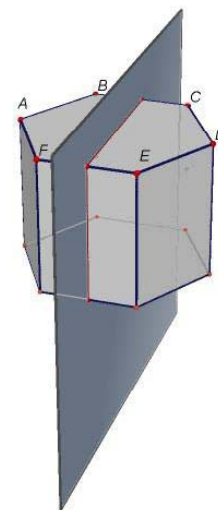
(Answer next month)

### Professional Development for the New High School Geometry Course

The new geometry course begins in September 2008 and preparing for it has become a priority throughout the city. It is vital for educators to learn about new topics that have not been taught before, either in Math A or Math B.

Schools planning to conduct professional development for this course on June 5 now have access to a wealth of materials. PowerPoints (with a special emphasis on the new topics), activities, course descriptions, exam specifications, sample tasks, articles and other resources are available for downloading from the Department of Mathematics web page at <http://schools.nyc.gov/Academics/Mathematics/EducatorResources/GeometryCourse.htm>

For information contact Ronald Schwarz at [rschwarz@schools.nyc.gov](mailto:rschwarz@schools.nyc.gov)



### Product Recall

McGraw-Hill has announced a voluntary product recall of several of its math items and has sent letters to all schools that have received McGraw-Hill materials. Recalled items include clear plastic rulers, magnetic number lines, measuring tape, double-nine domino sets, and number target mats. Further information is available at: <http://www.mhcares.com/recall.html>



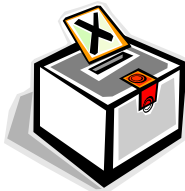
## Website of the Month

April is Mathematics Awareness Month at the Annenberg Learning Web site. The theme of Mathematics Awareness Month in this presidential election year is "Math and Voting."

"Game Theory," Program 9 of the new series "Mathematics Illuminated," demonstrates that competition and cooperation can be studied mathematically. Game theory began in the analysis of games like chess and checkers, but soon showed its relevance to economics and geopolitical strategy. <<http://www.learner.org/resources/series210.html>>

In another series "Learning Math: Data Analysis, Statistics and Probability," Video 9, "Random Sampling and Estimation" illustrates how to select a random sample and use it to estimate characteristics of an entire population. The video includes information especially useful in an election year: the variation in estimates and the effect of sample size on an estimate's accuracy. <[http://www.learner.org/resources/series158.html#program\\_descriptions](http://www.learner.org/resources/series158.html#program_descriptions)>

"The Missing Link: Essential Concepts for Middle School Math Teachers" is a professional development series that offers methods for teaching how to conduct random sampling and use probability to make predictions in Workshop 7. <<http://www.learner.org/channel/workshops/missinglink/>> The library of videos on mathematics can be found at [www.learner.org](http://www.learner.org). Registration is free.



## Summer SMART Board Academy 2008

Tequipment, the company that makes the SMART Board, offers **free** courses throughout the summer to learn about instruction with SMART Boards in the classroom. Visit <http://www.tequipment.com/summer> for full course offerings as well as to register for these free classes.

There is a new three-part administrator series of courses, and such other courses as: SMART Boards + content areas; SMART Boards + the UDL classroom; SMART Boards + Web 2.0; The SMART-Centric/Learner-Centric Classroom; and Say Hello to Notebook 10.

Courses are offered at two locations this summer: in their showrooms in Manhattan and in Farmingdale, Long Island. Please feel free to register for courses at whichever place/dates are most convenient for you. For information call or e-mail Keith Elgart at 516.922.3508 or [keith@tequipment.com](mailto:keith@tequipment.com)

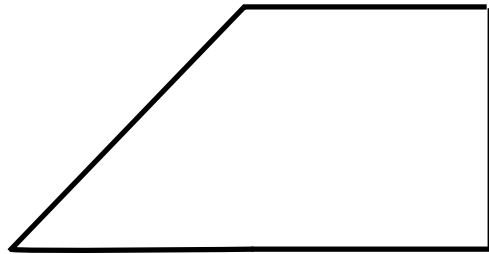
## Math in the News

WABC-TV broadcast a story in April about the Cognitive Tutor implementation at the High School for Health Professions and Human Services in Manhattan. Entitled 'Using Computers to Teach Math,' the story features interviews with Math AP Jeanette Tomasullo-Morelli, teacher Kelli Cookson and several students, along with classroom shots of students working on the program, which is used as an academic intervention tool. Students in the class are repeating the course, having been unsuccessful using more traditional methods. Reporter Art McFarland describes the success that the students are now experiencing. See the program online at: <http://abclocal.go.com/wabc/story?section=news/education&id=6094714>

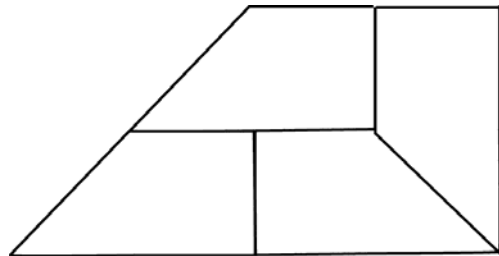


## Solution to last month's puzzle:

Use four lines to divide this figure into four congruent parts.



## Solution:



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<http://schools.nyc.gov/Academics/Mathematics/>

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# Birthdays of April through June

## April 1

**Sophie Germain** (1776-1831) was a French mathematician who made important contributions to the fields of differential geometry and number theory.

One of Germain's major contributions to number theory was the following theorem: if  $x$ ,  $y$ , and  $z$  are integers, and  $x^5 + y^5 = z^5$  then either  $x$ ,  $y$ , or  $z$  has to be divisible by five. This proof, which she first described in a letter to Gauss, became quite significant as it restricted the possible solutions of Fermat's last theorem. One significant contribution is the concept of the Sophie Germain prime, which is a prime number  $p$  where  $2p+1$  is also prime. One of her most famous identities, commonly known as *Sophie Germain's Identity*, states that for any two numbers  $x$  and  $y$ :

$$x^4 + 4y^4 = (x^2 + 2y^2 + 2xy)(x^2 + 2y^2 - 2xy).$$

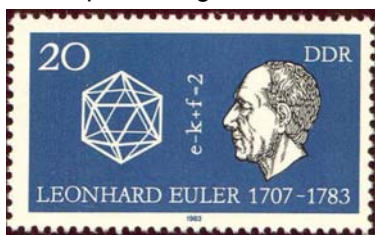
from Wikipedia

## April 15

**Leonhard Euler** (1707-1783) was a pioneering Swiss mathematician and physicist who spent most of his life in Russia and Germany. Euler made important discoveries in fields as diverse as calculus and graph theory. He also introduced much of the modern mathematical terminology and notation, particularly for mathematical analysis, such as the notion of a mathematical function. He is also renowned for his work in mechanics, optics, and astronomy.

Euler is considered to be the preeminent mathematician of the 18th century and one of the greatest of all time. He is also one of the most prolific; his collected works fill 60–80 quarto volumes. A statement attributed to Pierre-Simon Laplace expresses Euler's influence on mathematics: "Read Euler, read Euler, he is the master [i.e., teacher] of us all."

from Wikipedia



## April 30

**Karl Friedrich Gauss** (1777-1855) was a German mathematician and scientist who contributed significantly to many fields, including number theory, statistics, analysis, differential geometry, geodesy, electrostatics, astronomy, and optics. Sometimes known as "greatest mathematician since antiquity", Gauss had a remarkable influence in many fields of mathematics and science and is ranked as one of history's most influential mathematicians.

Gauss was a child prodigy, of whom there are many anecdotes pertaining to his astounding precocity while a mere toddler, and made his first ground-breaking mathematical discoveries while still a teenager. He completed *Disquisitiones Arithmeticae*, his magnum opus, in 1798 at the age of 21, though it would not be published until 1801. This work was fundamental in consolidating number theory as a discipline and has shaped the field to the present day.

from Wikipedia



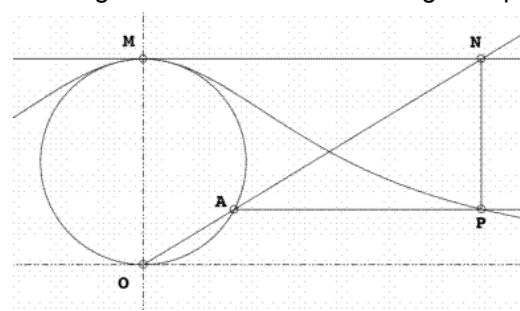
## May 16

**Maria Gaetana Agnesi** (1718 - 1799) was an Italian linguist, mathematician, and philosopher. Agnesi is credited with writing the first book discussing both differential and integral calculus. She was an honorary member of the faculty at the University of Bologna. Agnesi has been described as "the first important woman mathematician since Hypatia (fifth century A.D.)".



The *witch of Agnesi*, is the curve defined as follows:

Starting with a fixed circle, a point  $O$  on the circle is chosen. For any other point  $A$  on the circle, the secant line  $OA$  is drawn. The point  $M$  is diametrically opposite  $O$ . The line  $OA$  intersects the tangent at  $M$  at the point  $N$ . The line parallel to  $OM$  through  $N$ , and the line perpendicular to  $OM$  through  $A$  intersect at  $P$ . As the point  $A$  is varied, the path of  $P$  is the witch. The curve is asymptotic to the line tangent to the fixed circle through the point  $O$ .



The Witch of Agnesi with labeled points

from Wikipedia

## May 26

**Abraham de Moivre** (1667–1754 in London, England) was a French mathematician famous for de Moivre's formula, which links complex numbers and trigonometry, and for his

work on the normal distribution and probability theory. He was elected a Fellow of the Royal Society in 1697, and was a friend of Isaac Newton, Edmund Halley, and James Stirling. De Moivre wrote a book on probability theory, entitled *The Doctrine of Chances*. It was said that his book was highly prized by gamblers. It is reported in all seriousness that de Moivre correctly predicted the day of his own death. Noting that he was sleeping 15 minutes longer each day,

De Moivre surmised that he would die on the day he would sleep for 24 hours. A simple mathematical calculation quickly yielded the date, November 27, 1754. He did indeed pass away on that day.

He first discovered the "closed form" expression for Fibonacci numbers linking the  $n$ th power of phi to the  $n$ th Fibonacci number.

from Wikipedia



## June 19

**Blaise Pascal** (1623—1662) was a French mathematician, physicist, and religious philosopher. He was a child prodigy who was educated by his father. Pascal's earliest work was in the natural and applied sciences where he made important contributions to the construction of mechanical calculators, the study of fluids, and clarified the concepts of pres-

sure and vacuum. Pascal also wrote in defense of the scientific method.



Pascal was a mathematician of the first order. He helped create two major new areas of research. He wrote a significant treatise on the subject of projective geometry at the age of sixteen, and later corresponded with Pierre de Fermat on probability theory, strongly influencing the development of modern economics and social science.

Following a mystical experience in late 1654, he abandoned his scientific work and devoted himself to philosophy and theology.

from Wikipedia

We apologize for the long delay (since April) in your receiving this issue. We hope to return to a more normal monthly or bi-monthly schedule after the summer.

### Recommended Curricula for New Geometry Course

For the new Geometry course, which will begin in high schools in September, there will **not** be a single citywide core curriculum being centrally ordered as there is currently in Integrated Algebra. Schools will need to choose (and purchase) their own and in order to provide guidance, the Department of Mathematics has issued a list of recommended curricula. Publishers on this recommended list are committed to providing pacing calendars and summer professional development for teachers from schools that have chosen their curricula. The Department of Mathematics is committed to organizing and publicizing the summer professional development and disseminating the pacing calendars. Schools are free to choose textbooks that are not on the recommended list, but they would not be guaranteed pacing calendars or professional development. The recommended curricula are:

- McDougal Littell, *Geometry* (Larson, Boswell, Kanold, Stiff)
- Pearson Prentice Hall, *Geometry* (Bass, Charles, Hall, Johnson, Kennedy)
- Key Curriculum Press, *Discovering Geometry*, Fourth Edition (Michael Serra)

For more information, visit <http://schools.nyc.gov/Academics/Mathematics/StandardsCurriculum/default.htm>

### St. Francis College Summer Math and Science Institute for New York City Teachers.

During the summer of 2008 St. Francis College is operating a Summer Math and Science Institute for New York City school teachers. The institute provides teachers an excellent opportunity to earn up to six content area credits during the month of July. The Institute is funded by a grant from the New York State Education Department, which enables St. Francis College to offer these courses free of charge to teachers. This year's Institute will run from July 1 through 31 and will be structured into two sessions (Session 1 will run from July 1 through 15 and Session 2 will run from July 21 through 31). The deadline for registering is June 13, 2008. If you have any questions, please contact Ms. Moira Poe at [mope@stfranciscollege.edu](mailto:mope@stfranciscollege.edu) or (718) 489-5211.

For further information and to register, [Click Here](#).

## Summer Professional Development

### Math Solutions - Maximizing the Benefits of Intervention (Five Days)

This course prepares participants to implement an approach to intervention instruction that helps students who are at least a year behind in their basic understanding and skills in Number and Operations, the foundation of elementary mathematics. Content options are: Addition/Subtraction and Fractions; Multiplication and Division; Fractions and Multiplication; Multiplication and Addition/Subtraction. Participants learn to use content-scaffolding to sequence, plan, and teach lessons to develop students' computational skills, number sense, and problem-solving abilities. They also learn how to pace instruction to ensure students' success and to use a lesson format that offers step-by-step, explicit instruction to support student learning.

Target Audience: Math Coaches, Teachers  
Grade Level: 2-8  
Facilitators: Math Solutions Consultants  
Dates: July 28-August 1, five days  
Time: 8:30 a.m.-3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
Cost: \$500  
FAMIS Item No: TLMATH091

For information on how to pay for this training, [click here](#).  
To Register: First, pay for this training in FAMIS, then [click here](#) to register.

**Note: Attendees will NOT be paid to attend this course.**

### Everyday Mathematics Grade-Specific Professional Development for New Users (Two Days)

This course prepares participants to teach a specific grade level of *Everyday Mathematics* Third Edition. Participants explore the philosophy and components that comprise the *Everyday Mathematics* program and learn effective strategies for planning, managing and teaching lessons. They will also play a variety of EM games and explore their importance in computational fluency as well as investigate *Everyday Mathematics* assessment opportunities.

Target Audience: Teachers (new to *Everyday Mathematics*)  
Grade Level: PreK-5  
Facilitators: Wright Group/McGraw-Hill Consultants  
Dates: July 14-15, two days  
Time: 8:30 a.m.-3:00 p.m.  
Location: IS/PS 89  
201 Warren Street  
To Register: [CLICK HERE](#) to register.

### Integrating Everyday Mathematics with Elementary Science (Three Days)

The *Everyday Mathematics* program includes many cross-curricular links. With a focus on Grades 3-5, during this three day interactive workshop participants engage in inquiry activities that explore the important connections between mathematics and science embedded in *Everyday Mathematics*. They analyze the role notebooks play in deepening the conceptual understanding of their students. Participants learn how to reinforce the skills of measurement, data collection, displaying data, and analyzing data.

Target Audience: Math Coaches  
Grade Level: K-5  
Facilitators: Wright Group/McGraw-Hill Consultants  
Dates: July 16-18, three days  
Time: 8:30 a.m.-3:00 p.m.  
Location: IS/PS 89  
201 Warren Street  
To Register: [CLICK HERE](#) to register.

#### **4-Function Calculator Training in the Elementary School Math Classroom**

Participants will learn about the features of the TI-10 and TI-15 calculator and will learn how to effectively use this tool in the elementary school classroom. Participants will explore the use of this tool in relation to the elementary school curriculum.

Target Audience: Math Coaches and Teachers  
Grade level: K-5  
Facilitator(s): TBA  
Dates: July 24-25, two days  
Time: 9:00 a.m. -3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#) to register.

#### **Developing Mathematical Ideas (DMI) – Building a System of Tens (K-5)**

Developing Mathematical Ideas (DMI) is a professional development curriculum designed to help teachers think through the major ideas of K-5 mathematics and examine how children develop those ideas. Many elementary educators would rank place value and regrouping among the most important topics they teach in mathematics. Many teachers also report that these topics are troublesome for their students. This seminar allows teachers to examine the structure of our number system and the way students understand it. Through a series of classroom cases and video, teachers will consider the logic in the errors children make as they negotiate the difference between our spoken and written numbers. In this seminar, teachers will consider the connections students can make to flexibly maneuver around our number system that will give them the foundation for all of elementary school and beyond.

Target Audience: Math Coaches, Teachers  
Grade Level: K-5  
Facilitators: Experienced DOE Specialists  
Dates: July 21-July 24, four days  
Time: 8:30 a.m.-3:30 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#)

#### **Developing Mathematical Ideas (DMI) - Measuring Space in One, Two, Three Dimensions (K-8)**

Developing Mathematical Ideas (DMI) is a professional development curriculum designed to help teachers think through the major ideas of K-7 mathematics and examine how children develop those ideas. Measurement has enormous value as a practical skill used in everyday life. At the same time, the study of measurement can also be an oppor-

tunity for students to expand their mathematical thinking. Through a series of cases and videotapes of classrooms, children will reveal their thinking as they work on measurement ideas. Teachers will consider the issues with which students struggle, including which aspect to measure when asked, “How big is this rectangle?”, the relationship between area and perimeter and volume, and how to choose units of measure and use them efficiently. The cases look at the development of the big ideas of measurement and geometry as they develop over time, from early elementary school through middle school.

Target Audience: Math Coaches, Teachers  
Grade Level: K-8  
Facilitators: Experienced DOE Specialists  
Dates: July 21-July 24, four days  
Time: 8:30 a.m.-3:30 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#)

#### **Developing Mathematical Ideas (DMI) - Patterns, Functions and Change (K-8)**

Developing Mathematical Ideas (DMI) is a professional development curriculum designed to help teachers think through the major ideas of K-7 mathematics and examine how children develop those ideas. Measurement has enormous value as a practical skill used in everyday life. At the same time, the study of measurement can also be an opportunity for students to expand their mathematical thinking. Through a series of cases and videotapes of classrooms, children will reveal their thinking as they work on measurement ideas. Teachers will consider the issues students struggle with, such as which aspect to measure when asked, “How big is this rectangle?” the relationship between area and perimeter and volume, how to choose units of measure and use them efficiently. The cases look at the development of the big ideas of measurement and geometry as they develop over time, from early elementary school through middle school.

Target Audience: Math Coaches, Teachers  
Grade Level: K-8  
Facilitators: Experienced DOE Specialists  
Dates: July 21-July 24, four days  
Time: 8:30 a.m.-3:30 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#)

#### **IMPACT Mathematics in the Middle School Classroom—An Introduction to the 3rd Edition**

Participants will be introduced to the new edition of IMPACT Mathematics. Written expressly for use in New York schools, participants will discover what is new, what has changed, and how to implement this new edition in the middle school classroom. Additional work will include an introduction to new materials, including the Investigation Notebook and Reflection Journal, intervention materials, and enhanced technology. Discussions of the ACUITY assessment program and SCANTRON support technology will be included.

Target Audience: Middle School Math Teachers, Math Coaches, Math Supervisors  
Grade Level: 6-8  
Facilitator(s): TBA  
Dates: July 14 - July 17, four days  
Time: 9:00 a.m.– 3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
Cost: No charge  
To Register: [CLICK HERE](#) to register.

### **Graphing Calculator Training in the Middle School Math Classroom**

Participants will learn about the features of the TI-84 graphing calculator and will learn how to effectively use this tool in the middle school mathematics classroom. Participants will also be introduced to the TI-Inspire calculator and the Navigator tool.

Target Audience: Middle School Math Teachers, Math Coaches, Math Supervisors  
Grade level: 6-8  
Facilitator(s): TBA  
Dates: July 21-24, four days  
Time: 9:00 a.m.– 3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#) to register.

### **Scientific Calculator Training in the Middle School Math Classroom**

Participants will learn about the features of the TI-34 scientific calculator and will learn how to effectively use this tool in the middle school mathematics classroom. Participants will review the use of this technology in reference to standardized testing.

Target Audience: Middle School Math Teachers, Math Coaches, Math Supervisors  
Grade level: 6-8  
Facilitator(s): TBA  
Dates: July 21-23, three days  
Time: 9:00 a.m.– 3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#) to register.

### **Using Cabri Jr in the Middle School Math Classroom**

Participants will explore how to add a new dimension to students' learning experiences with Cabri Jr., interactive geometry for the TI84 calculator. Participants will learn how to create excitement in the classroom as they construct, analyze, and transform mathematical models and geometric diagrams with this Calculator Software Application (App).

Target Audience: Middle School Math Teachers, Math Coaches, Math Supervisors  
Grade level: 6-8  
Facilitator(s): TBA  
Dates: July 24-25, two days

Time: 9:00 a.m.– 3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers St  
To Register: [CLICK HERE](#) to register.

### **Graphing Calculator Training in the Integrated Algebra and Geometry Classroom**

Participants will learn about the features of the TI-84 graphing calculator and will learn how to effectively use this tool in the high school mathematics classroom. Participants will also be introduced to the TI-Inspire calculator and the Navigator tool.

Target Audience: High School Math Teachers, Math Coaches, Math Supervisors  
Grade level: 8-12  
Facilitator(s): TBA  
Dates: July 21-24, four days  
Time: 9:00 a.m.– 3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#) to register.

### **Using Cabri Jr in the High School Math Classroom**

Participants will explore how to add a new dimension to students' learning experience with Cabri Jr., interactive geometry for the TI84 calculator. Participants will learn how to create excitement in the classroom as they construct, analyze, and transform mathematical models and geometric diagrams with this Calculator Software Application (App).

Target Audience: High School Math Teachers, Math Coaches, Math Supervisors  
Grade level: 8-12  
Facilitator(s): TBA  
Dates: July 22-23, two days  
Time: 9:00 a.m.– 3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#) to register.

### **Teaching High School Geometry – Introducing the Next Level (Four Days)**

It is vital that teachers be prepared for the new 10th-grade math course, Geometry. Although geometry topics have been taught in Math A and B (and Sequential Math before them), there has not been a complete Geometry course in NYC for more than 30 years. To maximize student achievement, teachers are being offered four full days of professional development. In the first two days, participants will have an opportunity to examine current and innovative pedagogies related to the teaching and learning of geometry, expand their own knowledge of geometry and integrate technology and manipulatives into the study of geometry. In the second two days, participants will explore the wealth of resources and strategies provided by the curricula recommended for this course (i.e., they will choose among three groups, each spending two days learning to use one of the recommended curricula: either McDougal-Littell, Prentice Hall or Key Curriculum's Discovering Geometry).

Target Audience: High School Math Teachers, Math

Coaches, Math APs  
Grade Level: 10-12  
Facilitator(s): TBA  
Dates: July 14 - July 17, four days  
Time: 8:30 a.m.–3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
Cost: No Charge  
To Register: [CLICK HERE](#) to register.

### Integrated Algebra (Four Days)

In this series of four full-day sessions, participants will explore the wealth of ancillary materials which accompany the new Integrated Algebra book, including transparencies, graphing calculator resources, class sets of manipulatives, Spanish-language materials, review book, workbooks, assessment options and especially the new online resources, plus ExamView, TeacherExpress, and other technology that is now a part of daily instruction. They will also plan instruction for the first three chapters and practice pedagogical strategies (e.g., Think-Pair-Share, Numbered Heads, Jigsaw) to better reach their students.

Target Audience: High School Math Teachers, Math Coaches, Math APs  
Grade Level: 8-12  
Facilitator(s): TBA  
Dates: July 14 - July 17, four days  
Time: 8:30 a.m.–3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#) to register.

### Geometer's Sketchpad—Level 1 Professional Development (Three Days)

Participants will learn how to integrate *Sketchpad* Version 4 into the curriculum. This workshop will provide participants with new strategies to assess student understanding; build dynamic, draggable constructions that lead to mathematical insights and conjectures; construct tessellations; and study concepts in algebra. Participants will also investigate trigonometry, the role of proof, conic sections, and other topics while learning how *Sketchpad* works as a mathematical modeling tool and an exploratory environment for mathematics across the curriculum. **Participants must bring a laptop computer.**

Target Audience: High School Math Teachers, Math Coaches, Math APs  
Grade Level: 8-12  
Facilitator(s): TBA  
Dates: July 21 - July 23, three days  
Time: 8:30 a.m.–3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#) to register.

### Geometer's Sketchpad—Level 2 Professional Development (Four Days)

Participants will learn about the features of *Sketchpad* Version 4 that will deepen their experience while building customized toolkits, multi-page Sketchbooks, and dynamic frac-

tals and graphs. Participants will learn advanced methods and begin to master *Sketchpad* as the tool to explore Euclidean, coordinate, transformational, analytical, and fractal geometry. They will also harness the full power of *Sketchpad* for algebra, trigonometry, pre-calculus, and calculus classrooms. By the end of day four, participants will be ready to conduct Level 1 professional development in their schools.

### Participants must bring a laptop computer.

Target Audience: High School Math Teachers, Math Coaches, Math APs  
Grade Level: 8-12  
Facilitator(s): TBA  
Dates: July 21 - July 24, four days  
Time: 8:30 a.m.–3:00 p.m.  
Location: Stuyvesant High School  
345 Chambers Street  
To Register: [CLICK HERE](#) to register.

### New Geometry Initiative

Math for America and the Park City Mathematics Institute are offering a new initiative, Professional Development & Outreach (PDO) Group. The New York City PDO Group supports secondary school mathematics teachers in the five boroughs through mathematics workshops and other outreach activities. The theme of the 2008 NYC PDO is *Getting a New Perspective: Geometric and Visual Thinking in Expected and Unexpected Contexts*. Individuals may be eligible to earn "P" In-service credits for their participation.

Participants will explore interesting and exciting topics from a variety of geometries in order to increase awareness of what geometry is, and ways that geometric thinking can be incorporated in the classroom. Facilitated by Kelly Gaddis, Associate Professor of Math Education at Bard College and Joseph Malkevitch, Professor of Mathematics at York College (CUNY), each class session will contain a presentation by an invited guest speaker, and the opportunity for participants to engage in interesting problems, discussions, and some related classroom-based explorations. The content and design of this course are consistent with recommendations made in *Perspective on the Teaching of Geometry for the 21st Century (An ICMI Study)*, NCTM's *Principals and Standards*, and NY State's Learning Standards for Mathematics.

Confirmed guest speakers include: Heidi Burgiel, Doris Schattschneider, Tony Philips, Bill Zwicker and Davide Cervone, David Henderson and Daina Taimina, George Hart, and Jeff Weeks.

Their first meeting is on August 13, 2008. For a complete schedule and more information about the PDO Group, please visit their website at [www.mathforamerica.org/outreach](http://www.mathforamerica.org/outreach).

### Core Curriculum Questions?

The Core Curriculum Showcase back in March was a tremendous success, with hundreds of schools represented. For assistance, or answers to questions connected with Core Curriculum ordering and delivery, please call the Core Curriculum Help Desk at (718) 935-3334, or e-mail: [curriculum@schools.nyc.gov](mailto:curriculum@schools.nyc.gov)