

WHO WE ARE

New York Math Circle is a non-profit organization dedicated to enriching and supplementing mathematical education in New York City.

NYMC seeks to stimulate the enjoyment, appreciation and knowledge of Mathematics through problem solving and guided discovery, in our classes for students. Classes focus on material outside of the regular curriculum.

HIGH SCHOOL PROGRAM

During the year, we have classes for high school students at multiple levels running on Saturdays and Sundays. In the summer, we offer instead an intensive three-week long weekday program.

Weekend HS Math Circles at NYU & Queens College

Saturdays or Sundays, ten 2-hour sessions each semester. Only HSA is offered at Queens College on Sundays.

High School Circle A

HS A is appropriate for younger high school students who may be new to problem-solving. They should be comfortable with regular high school material, including at least Algebra 1.

High School Circle B

Students are expected to have completed the equivalent of two years of high school, and have a solid understanding of algebra, geometry, and elementary number theory. Experience with problem solving, such as prior NYMC or math team participation, is desirable but not required.

High School Circle C

Students are expected to have taken pre-calculus and to have deeper knowledge of algebra, geometry, and trigonometry, as well as experience with mathematical problem solving. Problems will require sustained effort, and writing proofs will play an important role.

High School Circle D

The Level D Course is intended for the most experienced problem solvers. The course will cover Olympiad-level topics with an emphasis on proof writing, as well as introduce students to college level Mathematics, including Analysis, Abstract Algebra and Linear Algebra. It's appropriate for students who have taken the USAMO, USAJMO, or equivalent, or students recommended by a NY Math Circle instructor. (If this applies to you, please contact us at info@nymathcircle.org for possible placement.)

Summer High School Math Circle at NYU

Three weeks in July, Mon – Fri, 10am – 3pm.

Summer 2016: July 11 - July 28, 2016

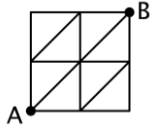
Our circles include interesting topics and intriguing problems, explored in an open and friendly setting, providing ample challenges for high school students of varying levels, from incoming freshmen to top Olympiad-level students.

Topics are drawn from number theory, combinatorics, algebra, geometry, probability, and more. Problem solving and posing are emphasized throughout. Construction and writing of proofs plays an important role.

See details at www.nymathcircle.org/summer.

A FEW SPECIAL PROBLEMS

1. How many different paths are there from A to B , only going up, right, or diagonally up and to the right?

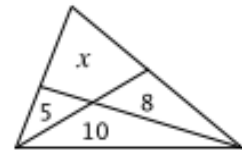


2. If the sum of two positive whole numbers is added to their product, the result is 90. What are the two numbers?

3. A palindrome is a number that reads the same from left to right as from right to left. Find all prime palindromes containing an even number of digits.

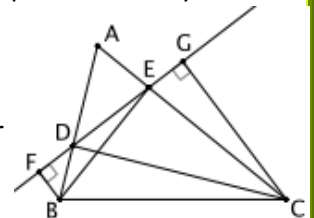
4. Find five distinct positive integers, the sum of whose reciprocals is 1. (Can you do this for seven distinct positive integers?)

5. In the diagram, x , 5, 8, and 10 are areas. Find the value of x .



6. A bicycle, a car, and a bus were moving along the same road, at different, but constant, speeds. When the car passed the bus, the bicycle was three miles ahead. When the car passed the bicycle, the bus was a mile behind. How far ahead was the car when the bus passed the bicycle?

7. In triangle ABC , BE and CD are altitudes, and BF and CG are perpendicular to the line DE . Prove that $FD = EG$.



MIDDLE SCHOOL PROGRAM

We have middle school classes on Saturdays and Sundays at NYU and on Sundays at Queens College. Both locations offer multiple levels. In the summer, we offer instead a six-week weekend program.

Middle School Circle at NYU

Saturdays or Sundays, ten 2-hour sessions each semester. All levels are offered on Saturdays. Only MSA and MSB are offered on Sundays.

Middle School Circle at Queens College

Sundays, ten 2-hour sessions each semester. Only MSA and MSB are offered at Queens College on Sundays.

Middle School Circle A

MS A is appropriate for students who are new to problem-solving, and should be well-versed in arithmetic, including order of operations, fractions, decimals, and percents.

Middle School Circle B

MS B is appropriate for students who have strong arithmetic skills and have some basic experience with algebra, or the equivalent of 2-4 semesters of MS A.

Middle School Circle C

MS C is appropriate for students who have strong arithmetic skills and considerable experience with algebra including some exposure to Algebra 1, or the equivalent of 2-4 semesters of MS B.

Summer Middle School Math Circle at NYU

Saturdays or Sundays, six weekends

Summer 2016: June 25 - August 6, 2016

Please also note that PM sections in both the High School and Middle School programs, when available, are taught at a slightly more advanced level and designed for students who have already taken this class 2 or more semesters in the past.

Details and registration for all student programs are online at www.nymathcircle.org/students.

WHAT TO EXPECT

At New York Math Circle, students will encounter a wide range of topics, solve challenging problems and invent their own, learn famous gems of mathematics and make exciting discoveries. Exceptional instructors teach intriguing and challenging yet very accessible mathematics in an informal and friendly atmosphere. Our main requirement is an open mind and willingness to work.

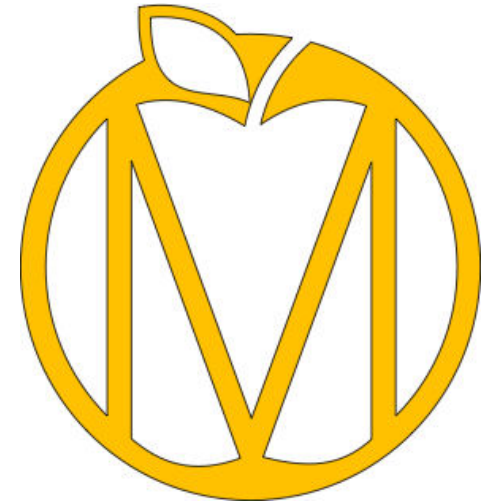
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NEW YORK MATH CIRCLE

PROGRAM OVERVIEW

www.nymathcircle.org
