# Al Kalfus Long Island Math Fair April 28, 2017

## Preliminary/Final Round Hofstra University

#### **Long Island Math Fair Committee**

Alan Blayne, Christine Brown, Jerry Chen, Ian Dunst, Arulappah Eswarathasan, Martha Green, Lynda Hennig, Lucille Hunter, Richard Hunter, Nat Janoff, Marlene Kalfus, M.C. Kim, Maxine Lifshitz, Christine Pette, Joseph Quartararo, Paulette Quartararo, Jane Sessler, Sylvia Silberger, Terry Springer, Charles Windwer

#### In Memory of our Founder Alfred Kalfus

#### **Long Island Math Fair Sponsors**

Hofstra University and the Suffolk County Mathematics Teachers Association, the Nassau County Mathematics Teachers Association, and the Nassau County Association of Mathematics Supervisors

#### **Program**

**Hofstra University** 

Multipurpose Room- grades 7, 8, 9 and Teams

Little Theatre- Grade 10, 11, 12

Students Check Room Assignments: 3 pm

Judging Preliminary Round: 3:30 pm

No Awards Assembly

## **Building Key**

| BR | Breslin | 37 | BRW | Brower      | 41   | C  | Calkins   | 33 |
|----|---------|----|-----|-------------|------|----|-----------|----|
| D  | Davison | 28 | GAL | Galwing     | 44   | HE | Heger     | 43 |
| L  | Lowe    | 24 | N   | Netherlands | 11   | R  | Roosevelt | 34 |
| S  | Starr   | 62 | SC  | Student Cnt | r 13 | A  | Adams     | 23 |

## **Special Thanks**

We would like to give special thanks to Arulappah Eswarathasan and Sylvia Silberger for all the on-site planning at Hofstra University for this year's Fair.

Judge School

Akbik Safwan Hofstra University

Ambrose Maryrose The Wheatley School

Appel Charles Lawrence High School

Arengo Sebastian Long Beach Middle School

Armstrong Lillian Jericho High School

Bambrick Liam North Shore Middle School

Barbarette Rick Lawrence High School

Barrera Christina Manhasset Secondary School

Beleckas John The Wheatley School

Bellissimo Casy Oceanside High School

Benos Melinda Hicksville Schools

Braun Mardi Roslyn High School

Bruno Josephine Herricks Middle School

Bulawa Andrew SUNY College at Old Westbury

Calderaro Lauren Hicksville Schools

Callahan Chris Roslyn High School

Candalino Leigh Herricks High School

Capella Nicole South Woods Middle School

Carlson Michael East Moriches Middle School

Carman Mark Roslyn High School

Carnes Melissa Jericho High School

Cascone Chris Northport High School

Castillo Belen Roslyn Middle School

Chae John Syosset High School

Contrada Nicole Manhasset Secondary School

Cooper Dave Herricks Middle School

Corona Ed North Shore High School

Cote Maria Herricks High School

Curran Eileen Holy Trinity High School

Decicco Michele Herricks Middle School

DeMarinis Dr. Matthew Jericho High School

DeSousa Natasha Woodland Middle School

Dic Meredith Syosset High School

DiMeola Amy North Shore Middle School

| Judge        |            | School                       |
|--------------|------------|------------------------------|
| DiVenuto     | Ray        | Schreiber High School        |
| Edelman      | Marc       | Roslyn High School           |
| Faibish      | Renee      | HAFTR                        |
| Falcone      | Tiffany    | North Shore Middle School    |
| Ferraro      | Mariangela | North Shore Hebrew Academy   |
| Fonseca      | Loretta    | Roslyn Middle School         |
| Frayler      | Kristin    | North Shore Middle School    |
| Gadamowitz   | Robert     | The Wheatley School          |
| Gallagher    | Tina       | Schreiber High School        |
| Ganzakev     | Geri       | Schreiber High School        |
| Garry        | Sherryl    | Oceanside High School        |
| Gazzola      | Debbie     | Thompson Middle School       |
| Gentile      | Danielle   | Woodland Middle School       |
| Getchell     | Donna      | Garden City High School      |
| Gill         | Colleen    | Holy Trinity High School     |
| Giunta       | Meghan     | Manhasset Secondary School   |
| Gizzi        | Gabbie     | Roslyn Middle School         |
| Goldbeck     | Dan        | Syosset High School          |
| Gomez        | Annemarie  | Holy Trinity High School     |
| Gordon       | Marissa    | Oceanside High School        |
| Gorman       | Bryan      | Schreiber High School        |
| Governale    | Tim        | South Woods Middle School    |
| Greene       | Nora       | North Shore Hebrew Academy   |
| Greenwell    | Raymond    | Hofstra University           |
| Gunn         | Ronnie     | Herricks High School         |
| Halpin       | Pam        | North Shore Middle School    |
| Hart         | Stacy      | Herricks Middle School       |
| Hartofylakas | Idyle      | Kennedy High School          |
| Hauser       | Elizabeth  | Syosset High School          |
| Hayes        | Peter      | SUNY College at Old Westbury |
| Herber       | Jennifer   |                              |
| Но           | Trisha     | Herricks High School         |
| Holland      | Wendy      | Hicksville Schools           |
|              |            |                              |

Roslyn Middle School

Renee

Huntley

| Judge     |           | School                       |
|-----------|-----------|------------------------------|
| Javardi   | Mohammad  | Nassau Community College     |
| Kadri     | Kadir     | Herricks Middle School       |
| Kalish    | Arthur    | SUNY College at Old Westbury |
| Kamarer   | Liz       | Schreiber High School        |
| Keenan    | Dave      | North Shore Middle School    |
| Khan      | Alyssa    | Herricks Middle School       |
| Koenig    | Rich      | Manhasset Secondary School   |
| Labrocca  | Ron       | Hicksville Schools           |
| LaGattuta | Genevieve | Kennedy High School          |
| Lee       | Soowook   | Roslyn High School           |
| Lester    | Terri     | East Meadow High School      |
| LiBassi   | Mindy     | Western Suffolk BOCES        |
| Lima      | Tara      | Clarke High School           |
| Loughran  | Rosaleen  | Roslyn High School           |
| Mann      | Lauleen   | Garden City High School      |
| Mantel    | Abe       | Hofstra University           |
| Marc      | Susan     | Kennedy High School          |
| Marks     | Casey     | The Wheatley School          |
| Mauer     | Tara      | Oceanside High School        |
| Maus      | John      | North Shore High School      |
| Maus      | Stacey    | Thompson Middle School       |
| Mazzarino | Christine | Lawrence High School         |
| McComsey  | Jessica   | Lawrence High School         |
| McNally   | Kevin     | Syosset High School          |
| McNamara  | Paul      | Thompson Middle School       |
| Mendez    | Lissette  | Lawrence High School         |
| Middleton | Ryan      | Northport High School        |
| Milana    | Nancy     | Manhasset Secondary School   |
| Modiano   | Jeffrey   | Garden City High School      |
| Morrow    | Josh      | Hicksville Schools           |
| Moss      | William   | Lawrence High School         |
| Murthy    | Geetha    | Herricks Middle School       |
| Ninan     | Melissa   | Lawrence Middle School       |
| O'Donnell | Mary Lou  | Kennedy High School          |
|           | -         | <del>-</del>                 |

| Judge      |             | School                       |
|------------|-------------|------------------------------|
| O'Hara     | MaryRose    | Holy Trinity High School     |
| Oskowski   | Melissa     | Oceanside High School        |
| Osuno      | Uzo         | Nassau Community College     |
| Pace       | John        | North Shore Middle School    |
| Palko      | Jenna       | Garden City High School      |
| Parisi     | Grace       | Long Beach Middle School     |
| Passarella | Alessandria | Our Lady of Mercy Academy    |
| Pellett    | MaryClare   | Holy Trinity High School     |
| Pesce      | Virginia    | Lawrence High School         |
| Petras     | Laura       | Manhasset Secondary School   |
| Phillips   | David       |                              |
| Pisciotta  | Deanna      | Woodmere Middle School       |
| Polan      | Sondra      | East Meadow High School      |
| Poris      | Beth        | MacArthur High School        |
| Pournazari | Mahmood     | Nassau Community College     |
| Prevete    | Deena       | Elmont Memorial High School  |
| Prizzi     | Leanne      | Jericho High School          |
| Reyes      | Tiffany     | Oceanside High School        |
| Ring       | Paul        | Clarke High School           |
| Ringhoff   | Lisa        | East Moriches Middle School  |
| Risi       | Ernie       | Woodland Middle School       |
| Rizzacasa  | Michelle    | North Shore Hebrew Academy   |
| Roethel    | Chris       | Nassau Community College     |
| Rogala     | Brook       | North Shore High School      |
| Ruczaj     | Brittany    | MacArthur High School        |
| Salatti    | Christopher | Holy Trinity High School     |
| Santoro    | Peter       | Garden City High School      |
| Saraceni   | Sal         | Lawrence High School         |
| Scala      | Maryellen   | Garden City High School      |
| Scansbrick | Colleen     | Lawrence Middle School       |
| Schorn     | Alan        | Great Neck North High School |
| Schum      | Robin       | Roslyn Middle School         |
| Scott      | Erik        | Roslyn Middle School         |
| Silagy     | Alyson      | Jericho High School          |

| Judge | School |
|-------|--------|
| Juuge | 301001 |

Silverstein Lauren Thompson Middle School

Silverstone Robert Hofstra University

Simon Samantha Roslyn High School

Sinclair Marissa Jericho High School

Sinn Tara Kennedy High School

Sklar Neil SUNY College at Old Westbury

Skurnick Ron Nassau Community College

Smith James Oceanside High School

Soto Marisol Lawrence High School

Spiegel Elizabeth Herricks High School

Stack Carolyn Roslyn High School

Steffens Josh Roslyn Middle School

Stramiello Dennis Nassau Community College

Straub Ryan Elmont Memorial High School

Sundberg Brian Northport High School

Talibon Janelle South Woods Middle School

Tallarine Lauren Manhasset Secondary School

Tantleff Susan Oceanside High School

Teseo Robert The Wheatley School

Turato Nicole Herricks Middle School

Valentino Mark Roslyn High School

Vallone Joseph Suffolk Community College

Walker Cory South Woods Middle School

Wallad Carrie-Ann Herricks High School

Walsh Patrick East Meadow High School

Wankel Charles North Shore High School

Wayne David Hofstra University

Wecksell Marilyn Manhasset Secondary School

Wieckhorst Joseph Lawrence Middle School

Wilson Laura North Shore Middle School

Winters Jessica Kennedy High School

Wolford Adam Schreiber High School

Wong Nicole Syosset High School

Young Diana Garden City High School

Judge School

Zahn Betsy Jericho High School

| Last     | Name        | First Name | Grade | Team   | Topic   | Room # |
|----------|-------------|------------|-------|--------|---|--------|
| Bethpag  | e HS        |            |       |        |   |        |
| Mai      | iti         | Soham      | 10    |        | Credit Risk: The Mathematics of Capital Allocation in the Banking I | S103   |
| Clarke H | <u>s</u>    |            |       |        |   |        |
| Ane      | est         | Kaylin     | 10    |        | Optical Illusions   | S107   |
| Brev     | viario      | Gabby      | 10    |        | The Parallax Method   | S108   |
| Hud      | la          | Shayan     | 10    |        | Rubik's Cube  | S109   |
| Mat      | thew        | Joel       | 10    |        | Fractals  | S201   |
| East Mea | adow HS     |            |       |        |   |        |
| Fon      | g           | Alyssa     | 9     |        | Trigonometry in Blood Splatter Analysis                             | BR106  |
| Froe     | ehlich      | Vanessa    | 9     |        | Continuity and Differentiability                                    | BR112  |
| Kurı     | uvilla      | Alvin      | 9     |        | Fractals and Cancer   | BR200  |
| Pan      | dey         | Ikshu      | 9     |        | Math in Amusement Parks   | BR206  |
| Pier     | nkowski     | Mateusz    | 9     |        | Mathematics in Animation  | BR208  |
| Aro      | ra          | Anusha     | 10    |        | Algebraic Topology  | S202   |
| Lope     | ez          | Laura      | 10    |        | Black Holes   | S203   |
| Ali      |             | Mehrin     | 11    |        | Music and Physics   | GAL013 |
| Diar     | mond        | Jordan     | 12    |        | Related Rates   | A200   |
| Floo     | ody         | Erin       | 12    |        | The Mathematics of Bouncing Balls                                   | A209   |
| Sugi     | rim         | Kirkland   | 12    |        | The Applications of Origami   | A212   |
| Upp      | oal         | Nikita     | 12    |        | The Mathematics of Tae Kwon Do                                      | GAL018 |
| East Mor | riches MS   |            |       |        |   |        |
| Giac     | chetto      | Michael    | 8     |        | NBA Statistics  | BR013  |
| Volp     | oe          | Stefano    | 8     |        | Astronomy   | BR014  |
| Carl     | son         | Aidan      | 8     | Team A | Fibonacci Sequence  | SC143  |
| Haw      | vkesworth   | Jade       | 8     | Team A | Fibonacci Sequence  | SC143  |
| Paul     | Ison        | Jane       | 8     | Team A | Fibonacci Sequence  | SC143  |
| Gait     | :a          | Domenick   | 8     | Team B | Pascal's Triangle   | SC218  |
| Galla    | arello      | Taylor     | 8     | Team B | Pascal's Triangle   | SC218  |
| Elmont N | Memorial HS |            |       |        |   |        |
| Нор      | kinson      | Eve        | 8     |        | Rubics Cube   | BR015  |
| Lekh     | nraj        | Arianna    | 8     |        | Golden Ratio  | BR016  |
| Mei      | kle         | Hannah     | 8     |        | Fibonacci Numbers   | BR018  |
| Pinz     | on          | Lina       | 8     |        | Imaginary Numbers   | BR019  |
| Shal     | hid         | Shazman    | 8     |        | Pascal's Triangle   | BR020  |
| Mar      | cello       | Christiano | 9     |        | Math and Architecture   | BR209  |
| Sulta    | ana         | Munahil    | 9     |        | Statistics  | BR211  |
| Adie     | ele         | Bethel     | 10    |        | Golden Ratio  | S204   |
| Mur      | nn          | Brianna    | 10    |        | Math and Aerodynamics   | S204A  |
|          |             |            |       |        |   |        |

|     | Last Name        | First Name    | Grade | Team | Торіс  | Room # |
|-----|------------------|---------------|-------|------|--|--------|
|     | Munn             | Lauren        | 10    |      | Math and Astronomy   | S205   |
|     | Asabor           | Rex           | 11    |      | Calculus in Physics  | GAL014 |
|     | Coley            | Bianca        | 11    |      | Statistics in Engineering  | GAL016 |
|     | Tugbobo          | Ifeoluwa      | 11    |      | Gaussian Math  | GAL017 |
| Ga  | rden City HS     |               |       |      |  |        |
|     | Flanagan         | Caroline      | 9     |      | Amidakuji  | BR216  |
|     | Fornasar         | Julia         | 9     |      | Sleep/Awake Patterns   | BR217  |
|     | Kane             | Marybeth      | 9     |      | Monty Hall's Dillemma  | D011   |
|     | Liberopoulos     | Jessica       | 9     |      | What are the different Types of Sleep                            | D014   |
|     | McDonald         | Dylan         | 9     |      | Zipf's Law in evertday life.                                     | D015   |
|     | McGuire          | Claire        | 9     |      | The effect of light on the circadian rhythm                      | D016   |
|     | Wu               | Sarah         | 9     |      | The Fourth Dimension   | D017   |
|     | Young            | Jillian       | 9     |      | How to help students struggling in math-thru stats               | D020   |
|     | Zheng            | James         | 9     |      | Pascal's Triangle Remainder Patterns                             | D101   |
|     | Ban              | Yuexuan (Jenn | 10    |      | Pascal's Triangle  | S208   |
|     | Gambino          | Lindsey       | 10    |      | Coloring a Map/Four Color Theorem                                | S209   |
|     | Gladd            | Chase         | 10    |      | Prisoner's Dillemma  | S302   |
|     | Greco            | Michael       | 10    |      | An end to Insight  | S304   |
|     | Heavey           | Patrick       | 10    |      | How does Game theory affect Board Games                          | S304A  |
|     | McGannon         | Christian     | 10    |      | The Magnus effect  | S305   |
|     | Morrison         | lain          | 10    |      | Language Death   | S308   |
|     | Muldoon          | Jack          | 10    |      | Polls and statistics from the 2016 Election                      | S309   |
|     | Padala           | Aidan         | 10    |      | Explorations of Number Systems and the Evaluation of their Funct | S205   |
|     | Pappas           | Gavin         | 10    |      | The Mathematics of Card Tricks                                   | HE100  |
|     | Pfaff            | Aidan         | 10    |      | Odds of winning in a casino                                      | HE101  |
|     | Plunkett         | Collin        | 10    |      | Linesand curves/Geometric Envelopes                              | S103   |
|     | Reifler          | Thomas        | 10    |      | How the NBA Schedule is created                                  | S107   |
|     | Scattareggia     | Joseph        | 10    |      | Mathematics in Basketballs                                       | S108   |
|     | Schmitt          | Timothy       | 10    |      | Operatin Room Management   | S109   |
|     | Smith            | Amy           | 10    |      | Marion Walker's Theorem  | S201   |
|     | Donohue          | Christopher   | 11    |      | Hyperbolic Geometry  | N013   |
|     | Germano          | George        | 11    |      | The number 3   | N015   |
|     | Grlic            | Thomas        | 11    |      | Equation of Time   | N018   |
|     | Ragusa           | Gabriel       | 12    |      | Calculus in Medicine   | GAL242 |
|     | Trivedi          | Vedant        | 12    |      | Examining Optimization   | R206   |
| Gre | at Neck North HS |               |       |      |  |        |
|     | Ganguli          | Nilesh        | 10    |      | The Riemann Rearrangement Theorem Paradox                        | S202   |
|     | Lu               | Christopher   | 10    |      | Benford's Law  | S203   |
|     |                  |               |       |      |  |        |

|           | Last Name       | First Name | Grade | Team | Topic                                  | Room # |
|-----------|-----------------|------------|-------|------|--|--------|
|           | Rothbaum        | Joshua     | 10    |      | Collatz Conjecture                     | S204   |
| <u>HA</u> | <u>FTR</u>      |            |       |      |  |        |
|           | Friedman        | Daniel     | 11    |      | A Critical Evaluation of Prime Numbers | R201   |
|           | Hilsenrath      | Erica      | 11    |      | Cardinality Viewed Through a Hierarchy | N020   |
|           | Kopyto          | Miriam     | 11    |      | The Construction of n - gons           | N021   |
|           | Neumann         | Efrat      | 11    |      | Fractals                               | R013   |
|           | Schorr          | Amanda     | 11    |      | Knot Theory                            | R015   |
|           | Gottlieb        | Mark       | 12    |      | Triangular Recursion Relationships     | R213   |
|           | Greenstein      | Maxwell    | 12    |      | A Hierarchy of Infinite Sets           | A200   |
|           | Plaut           | Joshua     | 12    |      | The Enigmatic Nature of Prime Numbers  | A209   |
|           | Sacks           | Rachel     | 12    |      | An Evaluation of Prime Numbers         | A212   |
|           | Schneider       | Jeremy     | 12    |      | An Evaluation of Prime Numbers         | GAL018 |
| <u>He</u> | rricks HS       |            |       |      |  |        |
|           | Chen            | Derek      | 9     |      | Integral Calculus                      | D102   |
|           | Gupta           | Rohan      | 9     |      | Integral Calculus in Projectile Motion | L201   |
|           | Rocco           | Andrew     | 10    |      | Cryptography                           | S204A  |
|           | Soni            | Hita       | 10    |      | Matrices                               | S205   |
|           | Makwana         | Кеуа       | 11    |      | The Golden Ratio                       | R101   |
|           | Patel           | Namrata    | 11    |      | The Accuracy Of Statistics             | R102   |
|           | Patel           | Radhika    | 11    |      | Fibonacci Numbers in Nature            | R106   |
|           | Sawhney         | Aman       | 11    |      | Mathematical Modeling                  | R108   |
|           | Singla          | Anisha     | 11    |      | Optimization                           | R109   |
|           | Wu              | Angela     | 11    |      | Graph Theory                           | N015   |
|           | Ahmed           | Nibras     | 12    |      | Game Theory                            | GAL242 |
|           | Chen            | Alan       | 12    |      | Geometry and Computer Graphics         | R206   |
|           | Jung            | Bongseok   | 12    |      | Chaos Theory                           | R213   |
|           | Koe             | Nora       | 12    |      | Monte Carlo Simulations                | A200   |
| Hei       | ricks MS        |            |       |      |  |        |
|           | Balasubramanian | Aadithyaa  | 7     |      | Logarithms                             | BRW101 |
|           | Chan            | Stephanie  | 7     |      | Game Theory                            | BRW102 |
|           | Chheda          | Caitlin    | 7     |      | Golden Ratio                           | BRW104 |
|           | Goel            | Aanya      | 7     |      | Parabolas                              | BRW106 |
|           | Kaur            | Prableen   | 7     |      | Complex Numbers                        | BRW201 |
|           | Khondkar        | Wafiq      | 7     |      | Conic Sections                         | BRW202 |
|           | Menrinetsang    | Tenzin     | 7     |      | Matrices and Determinants              | BRW203 |
|           | Min             | Esther     | 7     |      | Conic Sections                         | BRW204 |
|           | Nadeem          | Ayesha     | 7     |      | Parabolas                              | C306   |
|           | Patel           | Roshni     | 7     |      | Graph Theory                           | BRW101 |
|           |                 |            |       |      |  |        |

|             | Last Name       | First Name  | Grade | Team   | Торіс                     | Room # |
|-------------|-----------------|-------------|-------|--------|---------------------------|--------|
|             | Patnam          | Pranati     | 7     |        | Matrices and Determinants | BRW102 |
|             | Ramesh          | Iniya       | 7     |        | Game Theory               | BRW104 |
|             | Singhi          | Sneha       | 7     |        | Parabolas                 | BRW201 |
|             | Soni            | Keneil      | 7     |        | Parabolas                 | BRW202 |
|             | Sukhraj         | Stephanie   | 7     |        | Matrices and Determinants | BRW106 |
|             | Vinod           | Ankitha     | 7     |        | Genetics and Probability  | BRW203 |
|             | Chiang          | Selina      | 8     |        | Fibonacci Numbers         | BR025  |
|             | Chou            | Alison      | 8     |        | Linear Programming        | BR026  |
|             | Desai           | Aveena      | 8     |        | Limits                    | BR028  |
|             | Joseph          | Victoria    | 8     |        | Logarithms                | BR029  |
|             | Kim             | Andrew      | 8     |        | Platonic Solids           | BR100  |
|             | Koe             | Justin      | 8     |        | Hill Cipher               | BR103  |
|             | Krishnamoorthy  | Preethi     | 8     |        | Logarithms                | BR013  |
|             | Lakshmanan      | Haritha     | 8     |        | Differential Calculus     | BR014  |
|             | Leung           | Samuel      | 8     |        | Trachtenberg System       | BR015  |
|             | Pinzon          | Kyle        | 8     |        | Math and Music            | BR016  |
|             | Rasquinha       | Rhea        | 8     |        | Conic Sections            | BR018  |
|             | Shanmugananthan | Kiruthiga   | 8     |        | Game Theory               | BR019  |
|             | Tan             | Chiara      | 8     |        | Conic Sections            | BR020  |
|             | Venkatesan      | Bharath     | 8     |        | Conic Sections            | BR025  |
| Hev         | vlett HS        |             |       |        |                           |        |
|             | Paul            | Dylan       | 10    |        | Exploding Dots            | S208   |
| <u>Hicl</u> | sville Schools  |             |       |        |                           |        |
|             | Zhen            | Sam         | 7     | Team A | The Pythagorean Theorem   | SC141  |
|             | Zhen            | Sean        | 7     | Team A | The Pythagorean Theorem   | SC141  |
|             | Kohli           | Jaskaran    | 7     | Team B | Pi                        | SC142  |
|             | Sonika          | Aniket      | 7     | Team B | Pi                        | SC142  |
|             | Jain            | Aran        | 7     | Team C | Trigonometry              | SC141  |
|             | Sullivan        | Christopher | 7     | Team C | Trigonometry              | SC141  |
|             | Anugu           | Adith       | 8     |        | Pi                        | BR026  |
|             | Chittabathini   | Aniruddh    | 8     |        | Zeno's Paradoxes          | BR028  |
|             | Singh           | Navpreet    | 8     |        | Calculus: Derivatives     | BR029  |
|             | Ajith           | Adithya     | 11    |        | Irrational Numbers        | R110   |
|             | Antinora        | Elizibeth   | 11    |        | Game Theory               | R111   |
|             | Anugu           | Amith       | 11    |        | The Pigeonhole Principle  | R112   |
|             | Beltre          | Kathia      | 11    |        | Game Show Mathematics     | R201   |
|             | Francis         | Jasmin      | 11    |        | Pythagorean Triplets      | N019   |
|             | Hoang           | Caroline    | 11    |        | Cryptology and Ciphers    | R015   |
|             | =               |             |       |        |                           |        |

|            | Last Name     | First Name      | Grade | Team | Topic  | Room # |
|------------|---------------|-----------------|-------|------|--|--------|
|            | Joshi         | Roshon          | 11    |      | The Paper Airplane Problem                       | GAL013 |
|            | Kaur          | Manpreet        | 11    |      | The Banach-Tarski Paradox                        | GAL014 |
|            | Krieger       | Erin            | 11    |      | Fibonacci Numbers                                | GAL016 |
|            | Malhotra      | Sonali          | 11    |      | Mathematics and Medical Imaging                  | GAL017 |
|            | Patel         | Monit           | 11    |      | Aeronautics of a Paper Airplane                  | N013   |
|            | Rath          | Katherine       | 11    |      | Ciphers and Cryptography                         | N015   |
|            | Vutukuri      | Bhargawi        | 11    |      | Sudoku Mathematics                               | N018   |
| <u>Ho</u>  | ly Trinity HS |                 |       |      |  |        |
|            | Bilello       | Katelin Ann     | 10    |      | Math and Volleyball                              | S209   |
|            | Chen          | Hao (Oliver)    | 10    |      | Math and Basketball                              | \$302  |
|            | Chen          | Jiapeng (Rahn)  | 10    |      | Math and Astronomy                               | S304   |
|            | Feng          | Siyan (Frank)   | 10    |      | Math on a Commercial Airliner                    | S304A  |
|            | Frazier       | Donnie-Lee      | 10    |      | Mathematics of Weather Forecasting               | S305   |
|            | Gao           | Rongwan (Gla    | 10    |      | Golden Ratio                                     | S308   |
|            | Hughes        | Maryjane        | 10    |      | Dive In! The Physics of Swimming                 | S309   |
|            | Hughes        | MiAndre         | 10    |      | Cryptography and Math                            | HE100  |
|            | Jiang         | Binglun         | 10    |      | Math and Bubbles                                 | HE100  |
|            | Li            | Juncheng (Jard  | 10    |      | Origami and Math                                 | HE101  |
|            | Liang         | Wenxin (Wend    | 10    |      | Rubik's Cube                                     | S103   |
|            | Liu           | Runlong (Dam    | 10    |      | Pascal's Triangle                                | S107   |
|            | Liu           | Yilin (Andrew)  | 10    |      | Binary System                                    | S108   |
|            | Lu            | Tengyang (Mic   | 10    |      | Battleship                                       | S109   |
|            | Pang          | Weijin (Isco)   | 10    |      | Fourth Dimension                                 | S201   |
|            | Pascucci      | Michael         | 10    |      | Pascal's Triangle                                | S202   |
|            | Patel         | Harshil         | 10    |      | Fractals   | S203   |
|            | Shen          | Yimeng (Jenny   | 10    |      | Math and Volleyball                              | S204   |
|            | Shi           | Yiqing (Silvia) | 10    |      | Math and Perspective                             | S204A  |
|            | Tang          | Yumeng (Emel    | 10    |      | Math and Music                                   | S205   |
|            | Wang          | Xuanhao (Davi   | 10    |      | Mendel's Law                                     | S208   |
|            | Yang          | Chen (Jonna)    | 10    |      | Topology   | S209   |
|            | Yong          | Shuchen (Eva)   | 10    |      | Tilings and Tessellations                        | S302   |
| Hui        | ntington HS   |                 |       |      |  |        |
|            | Yeh           | Steve           | 12    |      | Alternative Methodology for Integration/Calculus | A209   |
| <u>ICP</u> | <u>s</u>      |                 |       |      |  |        |
|            | Coyne         | Aiden           | 10    |      | Circumscribing Quadrilaterals                    | S304   |
|            | Kapilian      | Joshua          | 10    |      | Products of Digits                               | S304A  |
|            | Michel        | Myrna Jean      | 10    |      | Figurate Number Patterns                         | S305   |
|            | Tivakaran     | Eshan           | 10    |      | Graphing Equations                               | S308   |
|            |               |                 |       |      |  |        |

|            | Last Name | First Name | Grade | Team | Topic   | Room # |
|------------|-----------|------------|-------|------|---|--------|
|            | Tran      | Matthew    | 10    |      | Consecutive Integer Sums  | S309   |
|            | Cruse     | Jack       | 11    |      | Changing Area   | N019   |
|            | Neiger    | Zachery    | 11    |      | Orthodiagonal Quadrilaterals  | N020   |
| <u>Jer</u> | icho HS   |            |       |      |   |        |
|            | Chen      | Austin     | 9     |      | Stimulating Dig   | BR200  |
|            | Misra     | Suchir     | 9     |      | Cyclic Numebrs  | BR105  |
|            | Sinnan    | Keertti    | 9     |      | 3D Modeling   | BR106  |
|            | Yao       | Ben        | 9     |      | Group Theory and Rubic's Cube                                       | BR112  |
|            | Hu        | Cystal     | 10    |      | Fibincacci  | 5305   |
|            | Mashriqi  | Tasin      | 10    |      | Rocket Equation   | HE100  |
|            | Pahlavan  | Ari        | 10    |      | GPS Tracking  | HE101  |
|            | Resier    | Ethan      | 10    |      | Expected Value  | S103   |
|            | Shah      | Shrey      | 10    |      | Quadrilateral Areas   | S107   |
|            | Shekar    | Shruthi    | 10    |      | Data Mining and Graphy Theory                                       | S108 · |
|            | Xu        | David      | 10    |      | Image Super-Resolution  | S109   |
|            | Bansal    | Simram     | 11    |      | Trachtenbery Speed System   | N021   |
|            | Cao       | Arthur     | 11    |      | A New Geomtry Lemma   | R013   |
|            | Cheng     | Margaret   | 11    |      | ISBN Codes  | R015   |
|            | Chu       | Lillian    | 11    |      | Missing Square Puzzle   | R101   |
|            | Fang      | Andy       | 11    |      | Prime Number Generation   | R102   |
|            | Fatehi    | Katharyn   | 11    |      | Golden Ratio  | R106   |
|            | Fishman   | Halle      | 11    |      | Roller Coasters   | R108   |
|            | Gennberg  | Lauren     | 11    |      | Compund Interest and Utility  | R109   |
|            | Gurnani   | Ishan      | 11    |      | Keplar  | R110   |
|            | Joshi     | Sama       | 11    |      | Statistcs: Mdeia and Achievement                                    | R111   |
|            | Kent      | Joshua     | 11    |      | Montey Hall   | R112   |
|            | Lin       | Henry      | 11    |      | Math Paradoxes  | R201   |
|            | Liu       | Oliver     | 11    |      | Math and Music  | N018   |
|            | Mdankumar | Swati      | 11    |      | Simpson's Paradox   | N020   |
|            | Rexha     | Farah      | 11    |      | Kaleidoscopes: Symmetry   | GAL013 |
|            | Schwartz  | Molly      | 11    |      | Decision Theory   | GAL014 |
|            | Sheen     | Matt       | 11    |      | Numbers in different bases  | GAL016 |
|            | Xu        | Alex       | 11    |      | Cyptography   | GAL017 |
|            | Yoo       | Sean       | 11    |      | Penalty Kicks   | N013   |
| Kei        | nnedy HS  |            |       |      |   |        |
|            | Israni    | Krish      | 9     |      | Astronomy and Mathematics   | BR208  |
|            | Varghese  | Eshwin     | 9     |      | Non-Euclidean Geometry and its Applications                         | BR209  |
|            | Biswas    | Rishab     | 11    |      | Credit Risk: The Mathematics of Capital Allocation in the Banking I | N015   |
|            |           |            |       |      |   |        |

|     | Last Name    | First Name      | Grade | Team | Торіс   | Room # |
|-----|--------------|-----------------|-------|------|---|--------|
|     | Chalfen      | Ethan           | 11    |      | Applications of Pascal's Triangle                                 | N018   |
|     | Fox          | Noah            | 11    |      | Markov Chain  | N020   |
|     | Harrington   | Nicole          | 11    |      | Conic Section   | N019   |
|     | Huang        | Kevin           | 11    |      | Sudoku Algorithms   | N021   |
|     | Hwang        | Jeff (Jeongbin) | 11    |      | Parabolic Relationships   | R013   |
|     | Jung         | Jaeyoon         | 11    |      | Godel's Incompleteness Theorem                                    | R015   |
|     | Kang         | Esther          | 11    |      | Application of Phi and the Fibonacci Sequence to Music            | R102   |
|     | Kazi         | Ammar           | 11    |      | Fuzzy Logig in Modern Day Artificial Intelligence                 | R101   |
|     | Kholodny     | Andrew          | 11    |      | The 4th Dimension   | R106   |
|     | Kim          | Justin          | 11    |      | Ramsey's Theorem  | R108   |
|     | Kirschner    | Samuel          | 11    |      | Foundations and Applications to Roman Numerals                    | R109   |
|     | Lee          | Jungin          | 11    |      | The Golden Ratio in Architecture                                  | R110   |
|     | Lu           | Ruoxin          | 11    |      | The Poincare Dodecahedral Space Model as an Explanation for To    | R111   |
|     | Makda        | Zain            | 11    |      | Application of Zeno's Paradox                                     | R112   |
|     | Mirza        | Safia           | 11    |      | Buffon's Needle Problem   | R201   |
|     | Park         | Julia           | 11    |      | An Investigation & Analysis of the Julia Set Derived from the Man | R112   |
|     | Philip       | Saira           | 11    |      | Probability in Genetics   | R102   |
|     | Rahban       | Joshua          | 11    |      | Pi  | GAL013 |
|     | Sethi        | Umang           | 11    |      | Applications of Muller's Method                                   | GAL014 |
|     | Sonmez       | Sarah           | 11    |      | Dynamical Systems   | GAL016 |
|     | Srinivasan   | Maanasi         | 11    |      | Lissajous Curves  | R109   |
|     | Stepansky    | Alex            | 11    |      | Dijkstra's Algorithm  | GAL017 |
|     | Stone        | Jack            | 11    |      | Circle Packing  | R110   |
|     | Syeda        | Sumaiyah        | 11    |      | Zeno's Paradoxes  | N013   |
|     | Temkin       | Jonathan        | 11    |      | WFABBA - Fire Algorithm   | N015   |
|     | Vathapallil  | Prince          | 11    |      | Application of Pappas Chain Theorem and Point Inversion           | N018   |
|     | Zeni         | Matthew         | 11    |      | Hardy-Weinberg Principle  | N019   |
|     | Ziadkhanpour | Kiana           | 11    |      | Happy Numbers   | N020   |
| Lav | vrence HS    |                 |       |      |   |        |
|     | Boravik      | Shiloh          | 9     |      | Birthday Paradox  | BR211  |
|     | Bugtai       | Brittany        | 9     |      | Probability of Each Card in a Card Deck                           | BR216  |
|     | Ciarlo       | Silvia          | 9     |      | Projectiles   | D011   |
|     | Feder        | Mia             | 9     |      | What's the Fastest Way to Solve a Rubik's Cube?                   | D015   |
|     | Gomez        | Jardina         | 9     |      | Probability of Each Card in a Card Deck                           | D016   |
|     | Jimenez      | Alyssa-Tyler    | 9     |      | Probability of Each Card in a Card Deck                           | D020   |
|     | Palacios     | Kimberly        | 9     |      | Optical Illusions   | D101   |
|     | Ramos        | Anthony         | 9     |      | Birthday Paradox  | D102   |
|     | Sandhu       | Bhawan          | 9     |      | Euclidean Geometry  | L201   |
|     |              |                 |       |      |   |        |

| Last Name       | First Name | Grade Tear | n Topic  | Room# |
|-----------------|------------|------------|--|-------|
| Blyudoy         | Jacqueline | 10         | Logic and Its Applications on Government                         | S201  |
| Bukhari         | Syed       | 10         | Intermediate Value Theorem                                       | S202  |
| Charlton        | Alexis     | 10         | How Does Playing Music Fit with Mathematical Equations?          | S203  |
| Chen            | John       | 10         | Factors of Exchange Rates of Money                               | S204  |
| Dookie          | Kristen    | 10         | Dandelion Spheres in Blood Splatter                              | S204A |
| Ehlers          | Shannon    | 10         | Seeing Symmetry  | S205  |
| Guha            | Anoushka   | 10         | Physics Behind Dance   | S208  |
| Khan            | Zaiff      | 10         | The Shape of Space   | S209  |
| Lira            | Tatiana    | 10         | Transformations "Seeing Symmetry"                                | S302  |
| Melgar          | Gelpi      | 10         | Delta-Epsilon Proofs   | S304  |
| Michel          | Madeline   | 10         | The Matrix and How It Works                                      | S304A |
| Park            | Samuel     | 10         | Math in Music  | S308  |
| Paz Lizama      | Zita       | 10         | Finding Symmetry in Everyday Life                                | S309  |
| Singh           | Astor      | 10         | Pool Table Geometry  | HE101 |
| Godoy           | Gesia      | 11         | Math Behind Ballistics   | N021  |
| Islam           | Mohammad   | 11         | Birthday Paradox   | R013  |
| Merchan         | Kellyn     | 11         | Golden Ratio   | R108  |
| Romero          | Amanda     | 11         | Birthday Paradox   | R106  |
| Simao           | Michael    | 12         | Gravity's Displacement   | A212  |
| Lawrence MS     |            |            |  |       |
| Dagrin          | Ileana     | 7          | The Golden Ratio   | C306  |
| Domanas         | Gabrielle  | 7 Team     | A Pythagorean Theorem  | SC142 |
| Urgen           | Ilia       | 7 Team     | A Pythagorean Theorem  | SC142 |
| Andrade         | Daniela    | 8          | Optical Illusions  | BR100 |
| Barrientos      | Joanna     | 8          | Famous Mathematicians  | BR103 |
| Chacon Palacios | Jamie      | 8          | Probability in Genetics  | BR013 |
| Davis           | Kitana     | 8          | Magic Squares  | BR014 |
| Guevara         | Mathew     | 8 Team     | A Sports Physics   | SC143 |
| Kirchner        | Luke       | 8 Team     | A Sports Physics   | SC143 |
| Hance           | Danielle   | 8 Team     | B Probability in Genetics  | SC218 |
| Perard          | Rachel     | 8 Team     | B Probability in Genetics  | SC218 |
| Long Beach MS   |            |            |  |       |
| Arengo          | Maya       | 8          | The Math of Music  | BR015 |
| Arengo          | Uma        | 8          | Irrational Numbers   | BR016 |
| MacArthur HS    |            |            |  |       |
| Chowdhury       | Saajid     | 10         | Formulas for the Sum of the Kth Powers of the First N Natural Nu | HE100 |
| Portello        | Nicholas   | 10         | The Mathematics Behind Bitcoin                                   | HE101 |
| Cakir           | Zeynep     | 11         | Fibonacci in Astrology and Universe                              | R111  |
|                 |            |            | <del>-</del> ,   |       |

|    | Last Name  | First Name  | Grade | Team | Торіс  | Room # |
|----|------------|-------------|-------|------|--|--------|
|    | Cassano    | Erin        | 11    |      | Mathematics Behind Election Predictions/Arrow's Impossibility Th   | R112   |
|    | Fisher     | Emily       | 11    |      | Mental Math  | R201   |
|    | Spinelli   | Delilah     | 11    |      | The Four Color Theorem   | R110   |
|    | Zhang      | Helen       | 11    |      | The Epigenetic Clock   | R101   |
|    | Butcher    | Casey       | 12    |      | Advantages of the Vigenere Cipher                                  | GAL018 |
|    | Myles      | Shannon     | 12    |      | Shannon Weiner and Gini-Simpson Index and Sorenson Coefficien      | GAL242 |
| Ma | nhasset HS |             |       |      |  |        |
|    | Apostolou  | Deme        | 9     |      | Prisoner's Dilemma   | BR105  |
|    | Barrett    | Timothy     | 9     |      | Game Theory  | BR106  |
|    | Chen       | Le (Angela) | 9     |      | The Monty Hall Problem   | BR112  |
|    | Gauld      | Kevin       | 9     |      | The World of Infinity  | BR200  |
|    | Hill       | Megan       | 9     |      | Expanding Road Systems Causes More Traffic Jams                    | BR206  |
|    | Kelly      | Emma        | 9     |      | Magic Squares  | BR208  |
|    | Kiley      | Matthew     | 9     |      | Spherical Geometry   | BR211  |
|    | Li         | Andrew      | 9     |      | Markov Chains  | BR209  |
|    | Maass      | Daniel      | 9     |      | How to Win Fantasy Football  | BR216  |
|    | Newman     | Carly       | 9     |      | Magic Squares  | BR217  |
|    | Orthos     | Kayla       | 9     |      | Rubik's Cube   | D011   |
|    | Reinhardt  | Quinn       | 9     |      | Fibonacci  | D014   |
|    | Zhang      | Rendie      | 9     |      | Fibonacci Sequence   | D015   |
|    | Broderick  | Thomas      | 10    |      | Math Behind the Rubik's Cube                                       | S107   |
|    | Hanley     | Eamon       | 10    |      | Quantification of Distance over Earth's Surface using Spherical Ge | S103   |
|    | Hitchcock  | Jack        | 10    |      | Mathematics and Sports   | S108   |
|    | Mannino    | Michael     | 10    |      | Game Theory  | S109   |
|    | Mondiello  | Caroline    | 10    |      | The Konigsberg Bridge Problem                                      | S201   |
|    | Reilly     | Benedict    | 10    |      | Modeling with Sequences  | S202   |
|    | Ryan       | Lindsay     | 10    |      | Mathematics of Sudoku  | S203   |
|    | Thalheimer | Bryce       | 10    |      | Pythagorean Triples  | S204   |
|    | Trotta     | Erin        | 10    |      | The Coloring of Maps   | S204A  |
|    | Gold       | Daniel      | 11    |      | Splines in Calculus  | GAL013 |
|    | Haigian    | Claudine    | 11    |      | Earthquakes and Logarithms   | GAL014 |
|    | Kassabian  | Alex        | 11    |      | Consecutive Integers   | GAL016 |
|    | Kiley      | Emily       | 11    |      | Random Numbers   | GAL017 |
|    | Locurto    | Marissa     | 11    |      | Triangular Numbers   | N013   |
|    | Petras     | Katherine   | 11    |      | Infinite Sums and China's Demographics                             | N015   |
|    | Thompson   | Christopher | 11    |      | Gridville  | N018   |
|    | Giovanelli | Frederick   | 12    |      | The Mathematics of Scuba Diving                                    | R206   |
|    | Kim        | Ben         | 12    |      | Fractional Calculus  | R213   |
|    |            |             |       |      |  |        |

|           | Last Name            | First Name | Grade | Team | Торіс  | Room # |
|-----------|----------------------|------------|-------|------|--|--------|
|           | Olsen                | Gavin      | 12    |      | Business Applications of Calculus                              | A200   |
|           | Psyllos              | John       | 12    |      | Physics  | A209   |
|           | Van Roy              | Parker     | 12    |      | Fluid Dynamics/Computational Statistics                        | A212   |
| No        | rth Shore Hebrew Aca | demy       |       |      |  |        |
|           | Goldman              | Sophie     | 10    |      | Graph Theory   | S208   |
|           | Schneck              | Eden       | 10    |      | Emerging Zika Virus Epidemic; How Prevalence of Disease Impact | S209   |
|           | Gilman               | Benjamin   | 11    |      | Gravitational Time Dilation                                    | N019   |
| <u>No</u> | rth Shore HS         |            |       |      |  |        |
|           | Chan                 | Stanely    | 9     |      | Buffon's Clean Tile Problem                                    | D016   |
|           | Hunt                 | Katherine  | 9     |      | Kaprekar's Numbers   | D017   |
|           | Lavenda              | Louis      | 9     |      | Mathematical Induction   | D020   |
|           | Lerman               | Izzy       | 9     |      | Cantor's set Thoery  | D101   |
|           | McCreery             | Kyra       | 9     |      | Euler's Formula  | D102   |
|           | Reilly               | Esme       | 9     |      | Relationships Between Areas and Perimeters                     | L201   |
|           | Нао                  | Jia Wei    | 10    |      | Shortest Path Between Points on a Surface                      | S302   |
|           | Leventhal            | Hanah      | 10    |      | Fibannaci Numbers ans Induction                                | S304   |
|           | Bello                | Hally      | 11    |      | The Cevian Problem   | N020   |
|           | Keenan               | Riley      | 11    |      | Bases other than Ten   | N021   |
|           | Ruisi                | Michael    | 11    |      | A Geometris Solution to a Quadratic                            | R013   |
|           | Santucci             | Lauren     | 11    |      | Inscribed and Escribed Cirles                                  | R015   |
|           | Sharkey              | Robert     | 11    |      | Herron's Formula   | R101   |
|           | Zaffiro              | Gabrielle  | 11    |      | Hyperbolic Geometery   | R102   |
| No        | rth Shore MS         |            |       |      |  |        |
|           | Blumenthal           | Ella       | 7     |      | Zeno's Paradox   | BRW101 |
|           | Boratin              | Daniel     | 7     |      | Magic Squares  | BRW102 |
|           | Borom                | Brandon    | 7     |      | Tessellations  | BRW104 |
|           | Brancato             | Nicholas   | 7     |      | Zeno's Paradox   | BRW106 |
|           | Ditrano              | Katie      | 7     |      | Roller Coasters  | BRW201 |
|           | Jasani               | Saniya     | 7     |      | Magic Sqaures  | BRW202 |
|           | Lamond               | Olivia     | 7     |      | Pascal's Triangle  | BRW203 |
|           | Lando                | Rebekah    | 7     |      | Platonic Solids  | BRW204 |
|           | McCreery             | Evelyn     | 7     |      | Number Systems   | C306   |
|           | Pastula              | Noah       | 7     |      | Conic Sections   | BRW101 |
|           | Reiner               | James      | 7     |      | Coding   | BRW102 |
|           | Vanchieri            | James      | 7     |      | Platonic Solids  | BRW104 |
|           | Zachariadis          | George     | 7     |      | Birthday Paradox   | BRW106 |
|           | Zhao                 | Eileen     | 7     |      | Magic Squares  | BRW201 |
|           | Caldwell             | Dean       | 8     |      | Codes  | BR018  |
|           |                      |            |       |      |  |        |

|           | Last Name    | First Name  | Grade | Team | Topic   | Room # |
|-----------|--------------|-------------|-------|------|---|--------|
|           | Castle       | Lucas       | 8     |      | Codes & Ciphers   | BR019  |
|           | Efstathiadis | Christina   | 8     |      | Phi   | BR020  |
|           | Gandhi       | Dhruv       | 8     |      | Math in Rollercoasters  | BR025  |
|           | Lenney       | Scott       | 8     |      | Topology  | BR026  |
|           | Pelts        | Jeremy      | 8     |      | Four Color Theorem  | BR028  |
|           | Reynolds     | Patrick     | 8     |      | Value of "e"  | BR029  |
| <u>No</u> | rthport HS   |             |       |      |   |        |
|           | Guo          | Emily       | 9     |      | Kepler's Laws   | BR200  |
| No        | rthport MS   |             |       |      |   |        |
|           | Koran        | William     | 7     |      | My Busy Bees & the Hexagon                                      | BRW202 |
|           | Slevin       | Leeva       | 7     |      | Math in Nature  | BRW203 |
|           | Sweeney      | Patrick     | 7     |      | The Golden Ratio  | BRW204 |
| <u>Oc</u> | eanside HS   |             |       |      |   |        |
|           | Aizer        | Ryan        | 9     |      | Game Theory   | D102   |
|           | Bier         | Jack        | 9     |      | Bayes Theorem and It's Application to Baseball                  | L201   |
|           | Carlins      | Makayla     | 9     |      | Binary Code   | BR105  |
|           | Cecil        | Mary        | 9     |      | Monty Hall Problem  | BR106  |
|           | Crowley      | Skyy        | 9     |      | Pythagoras and Math   | BR112  |
|           | Folias       | Christina   | 9     |      | Probability and Genetics  | BR200  |
|           | Gamarra      | Jonathan    | 9     |      | The Bridges of Kongisberg                                       | BR206  |
|           | Henn         | Catherine   | 9     |      | Taxi Cab Geometry   | BR208  |
|           | Lisi         | Nicholas    | 9     |      | The Postage Stamp Problem                                       | BR209  |
|           | Naseer       | Hamza       | 9     |      | The Binomial Theorem  | BR211  |
|           | Palmieri     | Christina   | 9     |      | The Golden Ratio and Real Life Applications                     | BR216  |
|           | Passuello    | Ryann       | 9     |      | Conic Sections  | BR217  |
|           | Phillips     | Michael     | 9     |      | Encoding and Decoding With Matrices                             | D011   |
|           | Picciano     | Jenna       | 9     |      | Exploring Pattern's Found Within Pascals Triangle               | D014   |
|           | Pocress      | Elana       | 9     |      | Calculating Planetary Motion Using Keplers Laws and Various Equ | D015   |
|           | Risi         | Alessandro  | 9     |      | Chaos Theory  | D016   |
|           | Ritter       | Blake       | 9     |      | Seven Bridges of Konigsberg                                     | D017   |
|           | Seychell     | Christopher | 9     |      | Tessellations   | D020   |
|           | Visconti     | Sarah       | 9     |      | Winning at Monopoly   | D101   |
|           | Baghan       | Osman       | 10    |      | Catastrophe Theory and Its Applications                         | S304A  |
|           | Haertig      | Vanessa     | 10    |      | Linear Diophantine Equations and Euclidean Algorithm            | S305   |
|           | Hong         | Ryan        | 10    |      | Mathematical Patterns Present in Music                          | S308   |
|           | James        | Danielle    | 10    |      | Golden Number and Relations                                     | S309   |
|           | Rovello      | Etzio       | 10    |      | Mathematics behind a card trick                                 | S201   |
|           | Sanchez      | Jacob       | 10    |      | The Math Behind League of Legends                               | HE100  |
|           |              |             |       |      |   |        |

|            | Last Name           | First Name | Grade | Team | Торіс   | Room # |
|------------|---------------------|------------|-------|------|---|--------|
|            | Aronshtein          | Filip      | 11    |      | The Collatz Conjecture  | R106   |
|            | Dimitrakas          | Nick       | 11    |      | The Chinese Remainder Theorem                                     | R108   |
|            | Javillo             | Jade       | 11    |      | Fractal Patterns of Music   | R109   |
|            | Meyerowitz          | Alexander  | 11    |      | The Traveling Salesman Problem                                    | R110   |
|            | Pagona              | Nina       | 11    |      | The Rubik's Cube  | R111   |
|            | Somerstein          | Sloane     | 11    |      | Perspective Drawings  | R112   |
|            | Wright              | Jacqueline | 11    |      | Harmonic Coordinates in Animation                                 | R201   |
|            | Calboreanu          | Lorelei    | 12    |      | The Prisoner's Dilemma  | GAL018 |
|            | Cavale              | Jenna      | 12    |      | Math in Criminology   | GAL242 |
|            | Curra               | Annalicia  | 12    |      | Math in Poetry  | R206   |
|            | Jones               | Chelsea    | 12    |      | Math in the Music Industry  | R213   |
|            | Markoulli           | Andrew     | 12    |      | Four Color Problem  | A200   |
|            | Pocress             | Michael    | 12    |      | Mathematically Modeling Mechanisms of Sterol Cell Transport       | A209   |
|            | Wolwebber           | Thomas     | 12    |      | Analysis of Whitetail Deer Populations                            | A212   |
| <u>Our</u> | Lady of Mercy Acade | <u>:my</u> |       |      |   |        |
|            | Cataliotti          | Sofia      | 11    |      | Perfect Triangles   | R109   |
| Ros        | lyn HS              |            |       |      |   |        |
|            | Antenberg           | Andrew     | 9     |      | Most effective lighting for photography                           | D102   |
|            | Arias Lopez         | Kaycee     | 9     |      | Basketball Dunk   | L201   |
|            | Ben-Levi            | Sammy      | 9     |      | Art Gallery problem   | BR217  |
|            | Covey               | Adam       | 9     |      | fantasy football  | BR211  |
|            | DiSanti             | Isabella   | 9     |      | Sabermatrics in baseball  | BR105  |
|            | Farber              | Zoe        | 9     |      | Mathematics in serving a volleyball                               | BR106  |
|            | Freeman             | Jake       | 9     |      | Best Angles in Soccer   | BR112  |
|            | Friedman            | Julia      | 9     |      | Analyzing tennis serves   | BR200  |
|            | Friedman            | Lianna     | 9     |      | Math in Skiing  | BR206  |
|            | Fries               | Gabrielle  | 9     |      | math behind flipping a water bottle                               | BR208  |
|            | Fries               | Sophie     | 9     |      | Alternate Calendars   | BR209  |
|            | Futoran             | Daniella   | 9     |      | Calculating the perfect pirouette                                 | BR211  |
|            | Grewal              | Daleep     | 9     |      | Relationship between the arc of a shot and the area of the basket | BR216  |
|            | Hakimi              | Ariella    | 9     |      | Shooting the Perfect Basket                                       | BR217  |
|            | Hammerman           | Brandon    | 9     |      | Affect of Angles on appereance of diamonds                        | D011 · |
|            | Kafri               | Roey       | 9     |      | Special RT triangles  | D014   |
|            | Khazzam             | Carly      | 9     |      | Flower Power  | D015   |
|            | Litvack             | Jake       | 9     |      | perfect number theorem  | D016   |
|            | Mindick             | Arianna    | 9     |      | Mathematics in Ballet   | D017   |
|            | Perlman             | Zachary    | 9     |      | Properties of infinity  | D020   |
|            | Rubin               | Madeline   | 9     |      | mathematics in waves  | D101   |
|            |                     |            | _     |      |   |        |

|     | Last Name  | First Name      | Grade | Team | Торіс   | Room # |
|-----|------------|-----------------|-------|------|---|--------|
|     | Rufai      | Feyi Sayo (Fey) | 9     |      | Infinity in Zentangles                        | D102   |
|     | Samuel     | Joshua          | 9     |      | Group Theory                                  | L201   |
|     | Sharda     | Shreeyam        | 9     |      | Geometrty basketball                          | D014   |
|     | Stein      | Jacob           | 9     |      | The Monty Hall Problem                        | D017   |
|     | Stoller    | Jake            | 9     |      | Collatz conjecture                            | BR105  |
|     | Sung       | Daniel          | 9     |      | Alternate Formula to player Efficienct Rating | BR106  |
|     | Tom        | Catherine       | 9     |      | Finding Finite Differences                    | BR112  |
|     | Tran       | Alexander       | 9     |      | Underhand free throws                         | BR200  |
|     | Wu         | Selina Rui      | 9     |      | Marion Walters Theorem                        | BR206  |
|     | Liu        | Alex            | 10    |      | Banking Basketball Shots Using Physics & Trig | S103   |
|     | Schiavo    | Justin          | 10    |      | The Feasiblility of building a space elevator | S107   |
| Ros | lyn MS     |                 |       |      |   |        |
|     | Fein       | Brooke          | 7     |      | Platonic Solids                               | C306   |
|     | Guillon    | Luca            | 7     |      | Conic Sections                                | BRW102 |
|     | Liu        | Daniel          | 7     |      | E and Compound Interest                       | BRW101 |
|     | Sehgal     | Harshita        | 7     |      | Trigonometry                                  | BRW104 |
|     | Xu         | William         | 7     |      | Catalan Numbers                               | BRW106 |
|     | Benlevi    | Kobi            | 8     |      | Modus Kobis                                   | BR100  |
|     | Chou       | Ryan            | 8     |      | consecutive integer sums                      | BR103  |
|     | Chu        | Laura           | 8     |      | Cycloids                                      | BR013  |
|     | Diamond    | Julia           | 8     |      | centriod distance relationships               | BR014  |
|     | Dolgoff    | Zachary         | 8     |      | distance between centers                      | BR015  |
|     | Fein       | Hannah          | 8     |      | To Infinity and Beyond                        | BR016  |
|     | Fox        | Jessica         | 8     |      | Coefficient for Normal Distribution           | BR018  |
|     | Garmise    | Hannah          | 8     |      | Math of soccer                                | BR019  |
|     | Kann       | Aaron           | 8     |      | shapes inside squares and relative areas      | BR020  |
|     | Lam        | Katie           | 8     |      | Infinite Series                               | BR025  |
|     | Lee        | Faith           | 8     |      | Nash Equilibruim                              | BR026  |
|     | Leiderman  | Hayden          | 8     |      | Prime Number and Factors                      | BR028  |
|     | Lok        | Sara            | 8     |      | The 7 bridges of Konigsberg                   | BR029  |
|     | Mashaal    | Justin          | 8     |      | Checkered Boards                              | BR100  |
|     | Matarangas | Ariana          | 8     |      | Fractal Geometry                              | BR103  |
|     | Mayourian  | Jacob           | 8     |      | perfect numbers                               | BR013  |
|     | Pahlevan   | Alida           | 8     |      | special triangles                             | BR014  |
|     | Park       | Gavin           | 8     |      | Squares in a Square Grid                      | BR015  |
|     | Russ       | Lindsey         | 8     |      | investigating skew                            | BR016  |
|     | Tanousis   | Paulina         | 8     |      | Probability with Dice                         | BR018  |
|     | Wachsman   | Ethan           | 8     |      | measuring normality                           | BR019  |
|     |            |                 |       |      |   |        |

|            | Last Name    | First Name     | Grade | Team   | Торіс   | Room # |
|------------|--------------|----------------|-------|--------|---|--------|
|            | Weisman      | Sydney         | 8     |        | Finding the area of curves  | BR020  |
|            | Weisser      | Justin         | 8     |        | effects of pro rating electoral votes on past president elections | BR025  |
|            | Weitz        | Michael        | 8     |        | Geometry and the golden ratio                                     | BR028  |
|            | Zucker       | Jordan         | 8     |        | Crytography   | BR026  |
|            | Bykov        | Joey           | 8     | Team A | Game Theory   | SC143  |
|            | Rabinovich   | Mia            | 8     | Team A | Game Theory   | SC143  |
| <u>Scł</u> | nreiber HS   |                |       |        |   |        |
|            | Fain         | Jacob          | 10    |        | Golf Ball Distance and Trajectory                                 | S109   |
|            | Gruber       | Zachary        | 10    |        | Transmissiblity of the Zika Virus                                 | S108   |
|            | Leong        | Maya           | 10    |        | Solar Statistical Analysis  | S202   |
|            | Melkonian    | Joseph         | 10    |        | Physics   | S203   |
|            | Pevzner      | Allon          | 10    |        | Lottery Distribution Analysis                                     | S204   |
|            | Romanski     | Lucas          | 10    |        | Kepler's Laws   | S204A  |
|            | Shields      | Carter         | 10    |        | Statistical Analysis of Organoclay Use                            | \$205  |
|            | Smith        | Hannah         | 10    |        | Fast Fashion  | S208   |
|            | Upadhyay     | Kushal         | 10    |        | Human Migration Network Modeling                                  | S209   |
|            | Cai          | Iris (Jiachen) | 11    |        | Golden Ratio and Chinese Paintings                                | R111   |
|            | Calamari     | Nicole         | 11    |        | Kinetics  | GAL013 |
|            | Finkelstein  | Anna           | . 11  |        | Fibonacci Spiral  | GAL014 |
|            | Johnson      | Shiraz         | 11    |        | Queueing Theory   | GAL016 |
|            | Kobayashi    | Ayato          | 11    |        | Statistics  | GAL017 |
|            | Littman      | Jamie          | 11    |        | Aerofoil Simulations  | N013   |
|            | Ruskin       | Julia          | 11    |        | Mathematical Modeling of Disease                                  | N015   |
|            | Shi          | Sherry (Run)   | 11    |        | Simulating Bee Population   | N018   |
|            | D'Alonzo     | Samantha       | 12    |        | Mathematical Modeling   | GAL018 |
|            | Goldman      | Sarah          | 12    |        | Statistics  | GAL242 |
|            | Hurt         | Jordan         | 12    |        | Physics   | R206   |
|            | Konoff       | Robert         | 12    |        | Solar Energy Efficiency   | R213   |
|            | Langone      | Dylan          | 12    |        | Physics   | A200   |
|            | Nachman      | Michael        | 12    |        | Regression Analysis   | A209   |
| Sou        | uth Woods MS |                |       |        |   |        |
|            | He           | Alex           | 7     |        | Traffic Jam Simulator   | BRW201 |
|            | Huang        | Eric           | 7     |        | Math in Aviation  | BRW202 |
|            | Kim          | Yuni           | 7     |        | Matrix Algebra  | BRW204 |
|            | Simon        | Justin         | 7     |        | Math in Our Election Process                                      | BRW203 |
|            | Wang         | Alex           | 7     |        | Pascals Triangles   | C306   |
|            | Jung         | Ashley         | 7     | Team A | Brain of a Swimmer  | SC141  |
|            | Shleimovich  | Michele        | 7     | Team A | Brain of a Swimmer  | SC141  |
|            |              |                |       |        |   |        |

|            | Last Name     | First Name | Grade | Team   | Topic  | Room # |
|------------|---------------|------------|-------|--------|--|--------|
|            | Chiu          | Ethan      | 7     | Team B | Optical Illusions                                  | SC142  |
|            | Lee           | Julian     | 7     | Team B | Optical Illusions                                  | SC142  |
|            | Meneshian     | Michael    | 7     | Team C | Math in Music                                      | SC142  |
|            | Sethi         | Sachi      | 7     | Team C | Math in Music                                      | SC142  |
|            | Gangat        | Nadeem     | 8     |        | Complex and Imaginary Numbers                      | BR029  |
|            | Kopacz        | Michael    | 8     |        | Game Theory  | BR100  |
|            | Mehtani       | Atharv     | 8     |        | Math in Astronomy                                  | BR103  |
|            | Rasquinha     | Giselle    | 8     |        | The Mathematics of Disease                         | BR013  |
|            | Shah          | Keya       | 8     |        | Binary and Hexadecimals                            | BR014  |
| Syc        | esset HS      |            |       |        |  |        |
|            | Li            | Kevin      | 8     |        | Fair Division                                      | BR015  |
|            | Henriksen     | lone       | 9     |        | Mathematics of Voting                              | BR208  |
|            | Hooey         | Sarah      | 9     |        | Fair Division                                      | BR209  |
|            | Jang          | Sophia     | 9     |        | Number Theory                                      | BR211  |
|            | Luo           | Yan        | 9     |        | Math in Music                                      | BR216  |
|            | Mittal        | Arushi     | 9     |        | Fair Division                                      | BR217  |
|            | Eager         | Sabrina    | 10    |        | Application of Bayes' Theorem in Social Science    | S302   |
|            | Hsu           | Allison    | 10    |        | Graphic Analysis                                   | S304   |
|            | Huang         | Benjamin   | 10    |        | Fractals and Technical Analysis                    | S304A  |
|            | Lam           | Thomas     | 10    |        | Probability Analysis                               | S305   |
|            | Rustami       | Sahil      | 10    |        | Game Theory  | S308   |
|            | Ardizzone     | Matthew    | 11    |        | Two Dimensional Matrices                           | N019   |
|            | Arora         | Jahnavi    | 11    |        | Cloud Computing                                    | N020   |
|            | Goldberg      | Jillian    | 11    |        | Quantitative Finance                               | N021   |
|            | Lefkowitz     | Ryan       | 11    |        | Computer Graphics                                  | R013   |
|            | Reddock       | Ross       | 11    |        | Statistical Analysis of Running                    | R015   |
|            | Tang          | Jacquelin  | 11    |        | Topology   | R101   |
|            | Weiss         | Jeremy     | 11    |        | Image Processing                                   | R102   |
| <u>Tho</u> | mpson MS      |            |       |        |  |        |
|            | Arora         | Prisha     | 7     |        | Pythagorean Theorem                                | BRW101 |
|            | Kyler-Wank    | Owen       | 7     |        | Fractals   | BRW102 |
|            | Motaganahalli | Shreya     | 7     |        | Area of circle is equal to the area of a rectangle | BRW104 |
|            | Ng            | Sebastian  | 7     |        | Rubik's Cube                                       | BRW106 |
|            | Parthasarathy | Riddhi     | 7     |        | The Fibonacci Numbers                              | BRW201 |
|            | Sharma        | Rhea       | 7     |        | Pascal's Triagnge                                  | BRW202 |
|            | Wang          | David      | 7     |        | Permuation and Combinations                        | BRW203 |
|            | Steiner       | Lauren     | 7     | Team A | Pi   | SC141  |
|            | Zelenitz      | Chloe      | 7     | Team A | Pi   | SC141  |
|            |               |            |       |        |  |        |

| Last Name               | First Name | Grade Team | <u>Topic</u>   | Room # |
|-------------------------|------------|------------|--|--------|
| Gao                     | Tiffany    | 7 Team B   | Magic Squares  | SC142  |
| Yang                    | Jynnie     | 7 Team B   | Magic Squares  | SC142  |
| Huang                   | Amanda     | 7 Team C   | Pascal's Triagnge  | SC141  |
| Zhu                     | Caroline   | 7 Team C   | Pascal's Triagnge  | SC141  |
| Trinity Regional School |            |            |  |        |
| DePaul                  | Aidan      | 8 Team A   | Optical Illusions  | SC218  |
| Gallo                   | Alessio    | 8 Team A   | Optical Illusions  | SC218  |
| Gallo                   | Angelo     | 8 Team A   | Optical Illusions  | SC218  |
| Wheatley School         |            |            |  |        |
| Bansal                  | Manar      | 8          | Finding Area Under a Curce using geometry and Definite Integrals | BR016  |
| Chabria                 | Anya       | 8          | Fibonacci Numbers  | BR019  |
| Cohen                   | Nadav      | 8          | Transformations  | BR018  |
| Hassan                  | Sarah      | 8          | Matrices and their applications in Computer Science and Mathem   | BR020  |
| Hassan                  | Ubaidullah | 8          | Magic Squares  | BR025  |
| Ness                    | Eric       | 8          | Music and Mathematics  | BR026  |
| Oshodi                  | Temitope   | 8          | The use of Math in Fantasy Sports                                | BR028  |
| Ajmera                  | Rahul      | 9          | The Mathematics Behind the GPS                                   | D011   |
| Behar                   | Brandon    | 9          | The Infinite Qualities of Twin Primes                            | D014   |
| Belle                   | Alyssa     | 9          | Fractals   | D015   |
| Ramos                   | Madison    | 9          | The Mathematics Behind the Construction of the Sagruda Familia   | D016   |
| Vincenzo                | Ashley     | 9          | Inflation and its connection to investments                      | D017   |
| Yagoda                  | Emily      | 9          | Compond Interest   | D020   |
| Zhong                   | Sharon     | 9          | Mathematics within Origami                                       | D101   |
| Hirsch                  | Andrew     | 10         | Linear Programing  | S309   |
| Shukla                  | Manan      | 10         | The Banach-Tarski Paradox  | HE101  |
| Ainechi                 | Sufia      | 11         | Planet X   | R106   |
| Vega                    | Justin     | 11         | Schrodinger's Equation   | R108   |
| Gilbert                 | Jakob      | 12         | Equation for Combining Exponents                                 | A212   |
| Jadonath                | Arvin      | 12         | The Lorenz Attractor   | GAL018 |
| Lessen                  | Ashley     | 12         | Chinese Remainder Theorem  | GAL242 |
| Lotzky                  | Gil        | 12         | Martin Gardner's Puzzles   | R206   |
| Nussbaum                | Jax        | 12         | Finite Differences   | R213   |
| Woodland MS             |            |            |  |        |
| Jojode                  | Sachin     | 7          | Math and Basketball  | BRW204 |
| Felder                  | Ashley     | 7 Team A   | History of Numbers   | SC142  |
| Rodriguez               | Lauren     | 7 Team A   | History of Numbers   | SC142  |
| Chinnadurai             | Nishanth   | 8          | Conic Sections   | BR029  |
| Levy                    | Elizabeth  | 8          | Probability in Genetics  | BR100  |
|                         |            |            |  |        |

| Last Name   | First Name | Grade Team | Topic                     | Room # |
|-------------|------------|------------|---------------------------|--------|
| Suryavanshi | Anshul     | 8          | Trachtenberg Speed System | BR103  |
| Woodmere MS |            |            |                           |        |
| Cheng       | Kelvin     | 8 Team A   | Pascal's Triangle         | SC143  |
| Chinnappala | Sumeet     | 8 Team A   | Pascal's Triangle         | SC143  |

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