

# **Al Kalfus Long Island Math Fair**

## **February 26, 2016**

### **Preliminary Round**

### **Hofstra University**

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

**Joyce Bernstein, 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**

**Students Check Room Assignments: 3 pm**

**Judging Preliminary Round: 3:30 pm**

#### **Building Key**

|            |                  |           |            |                      |           |            |                      |           |
|------------|------------------|-----------|------------|----------------------|-----------|------------|----------------------|-----------|
| <b>A</b>   | <b>Adams</b>     | <b>23</b> | <b>BA</b>  | <b>Barnard</b>       | <b>29</b> | <b>BR</b>  | <b>Breslin</b>       | <b>37</b> |
| <b>BRW</b> | <b>Brower</b>    | <b>41</b> | <b>CHP</b> | <b>Berliner Hall</b> | <b>59</b> | <b>D</b>   | <b>Davison</b>       | <b>28</b> |
| <b>HA</b>  | <b>Hauser</b>    | <b>25</b> | <b>HE</b>  | <b>Heger</b>         | <b>43</b> | <b>HGN</b> | <b>Hagedorn Hall</b> |           |
| <b>L</b>   | <b>Lowe</b>      | <b>24</b> | <b>M</b>   | <b>Monroe</b>        | <b>60</b> | <b>MA</b>  | <b>Mason</b>         | <b>44</b> |
| <b>R</b>   | <b>Roosevelt</b> | <b>34</b> | <b>S</b>   | <b>Starr</b>         | <b>62</b> | <b>SC</b>  | <b>Student Cntr</b>  | <b>13</b> |

#### **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.**

| <u>Judge's Name</u> |           | <u>School</u>             |
|---------------------|-----------|---------------------------|
| Abidor              | Andrea    | The Wheatley School       |
| Alt                 | Matthew   | HAFTR                     |
| Ambrose             | Maryrose  | The Wheatley School       |
| Ardilio             | Suzanne   | East Meadow High School   |
| Arengo              | Sebastian | Long Beach Middle School  |
| Armstrong           | Lillian   | Jericho Schools           |
| Barrera             | Christina | Manhasset High School     |
| Basile              | Trish     | Herricks High School      |
| Bernhardt           | Laura     | Kennedy High School POB   |
| Berrios             | Melinda   | Hicksville High School    |
| Bostrom             | Michael   | Syosset High School       |
| Bowen               | Christian | Kennedy High School POB   |
| Breckner            | Steve     | Nassau Community College  |
| Bricker             | Melissa   | Oceanside High School     |
| Bruns               | George    | Nassau Community College  |
| Burt                | Alexander | Friends Academy           |
| Callaha             | Chris     | Roslyn High School        |
| Cannata             | Matt      | Herricks Middle School    |
| Capella             | Nicole    | South Woods Middle School |
| Carman              | Mark      | Roslyn High School        |
| Cascone             | Chris     | Northport High School     |
| Cashman             | Julia     | The Wheatley School       |
| Castillo            | Belen     | Roslyn Middle School      |
| Cetron              | Jason     | Hicksville High School    |
| Chae                | John      | Syosset High School       |
| Chiang              | Fei       | Nassau Community College  |
| Chiarenza           | Jillian   | Friends Academy           |
| Coe                 | Russell   | Suffolk Community College |
| Cote                | Maria     | Herricks High School      |
| Curran              | Ilene     | Holy Trinity High School  |
| Decicco             | Michele   | Herricks Middle School    |
| DeMarinis           | Matt      | Jericho Schools           |
| DiMeola             | Amy       | North Shore Middle School |
| DiVenuto            | Ray       | Schreiber High School     |
| Edelman             | Marc      | Roslyn High School        |
| Faibish             | Renee     | HAFTR                     |
| Falcone             | Tiffany   | North Shore Middle School |
| Faraci              | Michael   | Manhasset High School     |
| Filippi             | Mark      | Kennedy High School POB   |
| Fina                | Joe       | The Wheatley School       |
| Finn                | Tara      | Kennedy High School POB   |

| <u>Judge's Name</u> |           | <u>School</u>              |
|---------------------|-----------|----------------------------|
| Fonseca             | Loretta   | Roslyn Middle School       |
| Frayler             | Kristin   | North Shore Middle School  |
| Gallagher           | Nancy     | Garden City High School    |
| Gallagher           | Tina      | Schreiber High School      |
| Gerver              | Michael   | North Shore High School    |
| Gerver              | Rob       | North Shore High School    |
| Getchell            | Donna     | Garden City High School    |
| Giamundo            | Jennifer  | Thompson Middle School     |
| Giunta              | Natalie   | East Meadow High School    |
| Gizzi               | Gabriella | Roslyn Middle School       |
| Goldbeck            | Dan       | Syosset High School        |
| Gorman              | Bryan     | Schreiber High School      |
| Governale           | Tim       | South Woods Middle School  |
| Greene              | Nora      | North Shore Hebrew Academy |
| Greenwell           | Raymond   | Hofstra University         |
| Gross               | Jay       | Manhasset High School      |
| Halpin              | Pam       | North Shore Middle School  |
| Hart                | Stacy     | Herricks Middle School     |
| Hauser              | Elizabeth | Syosset High School        |
| Haush               | Karen     | Jericho Schools            |
| Hausler             | Dana      | Herricks Middle School     |
| Hawkins             | Annmari   | Hicksville High School     |
| Hayes               | Peter     | ICPS                       |
| Heron               | John      | Oceanside Middle School    |
| Heyligers           | Alana     | Doshi Stem Institute       |
| Ho                  | Trisha    | Herricks High School       |
| Huntley             | Renee     | Roslyn Middle School       |
| Janoff              | Nat       | Math Fair Committee        |
| Jones               | Derek     | Manhasset High School      |
| Kadri               | Kadir     | Herricks High School       |
| Kahn                | Jill      | Jericho Schools            |
| Kalish              | Arthur    | ICPS                       |
| Karvelas            | Mary      | Lawrence Middle School     |
| Keenan              | David     | North Shore Middle School  |
| Kelly               | Eileen    | Oceanside High School      |
| Kessler             | Ellen     | Doshi Stem Institute       |
| Khan                | Alyssa    | Herricks Middle School     |
| Kirkup              | Debbie    | Kennedy High School POB    |
| Koebel              | Tara      | Clarke High School         |
| Koenig              | Rich      | Manhasset High School      |

| <u>Judge's Name</u> |             | <u>School</u>               |
|---------------------|-------------|-----------------------------|
| Kohart              | Adam        | Roslyn Middle School        |
| Kriegstein          | Helene      | Jericho Schools             |
| Kristoff            | Tracy       | MacArthur High School       |
| Kuntz               | Karen       | Sacred Heart Academy        |
| Labrocca            | Ron         | Hicksville High School      |
| Lavin               | Roselle     | Holy Trinity High School    |
| Lee                 | Soowook     | Roslyn High School          |
| Leo                 | Dianna      | South Woods Middle School   |
| Lesser              | Jeff        | The Wheatley School         |
| Libassi             | Mindy       | West Suffolk Boces          |
| Litvack             | Alison      | Herricks High School        |
| Lombardi            | Danielle    | South Woods Middle School   |
| Loughran            | Rosaleen    | Roslyn High School          |
| Lynum               | Carina      | Thompson Middle School      |
| Mackin              | Cathy       | North Shore High School     |
| Mackler             | Hayley      | Oceanside Middle School     |
| Marinucci           | Nicole      | Oceanside High School       |
| Masini              | Teresa      | Manhasset High School       |
| Maurer              | Tara        | Oceanside Middle School     |
| Maus                | John        | North Shore High School     |
| McGlynn             | Cassandra   | Woodmere Middle School      |
| Meckley             | Christina   | Woodland Middle School      |
| Medina              | Jackie      | Manhasset High School       |
| Milana              | Nancy       | Manhasset High School       |
| Monioudis           | Nick        | Oceanside High School       |
| Morris-Gill         | Colleen     | Holy Trinity High School    |
| Morrow              | Josh        | Hicksville High School      |
| Murthy              | Geetha      | Herricks Middle School      |
| O'Donnell           | Marylou     | Kennedy High School POB     |
| Oehrlein            | Helen       | Portledge School            |
| O'Hara              | MaryRose    | Holy Trinity High School    |
| Pace                | John        | North Shore Middle School   |
| Pasetti             | Carly       | Oceanside Middle School     |
| Patriarco           | Erica       | The Wheatley School         |
| Pellett             | MaryClare   | Holy Trinity High School    |
| Perlman             | Carol       | Doshi Stem Institute        |
| Persaud             | Christopher | Elmont Memorial High School |
| Petras              | Laura       | Manhasset High School       |
| Pillar              | Emily       | Schreiber High School       |

| <u>Judge's Name</u> |             | <u>School</u>                |
|---------------------|-------------|------------------------------|
| Pisciotta           | Deanna      | Woodmere Middle School       |
| Polan               | Sondra Lynn | East Meadow High School      |
| Reiss               | Cara        | Freeport High School         |
| Reiss               | Cara        | Freeport High School         |
| Ring                | Paul        | Clarke High School           |
| Rogala              | Brooke      | North Shore High School      |
| Ruczaj              | Brittany    | MacArthur High School        |
| Ruthkowski          | Brian       | Northport High School        |
| Scarisbrick         | Colleen     | Lawrence Middle School       |
| Schorn              | Alan        | Great Neck North High School |
| Schroeder           | Mallory     | North Shore Middle School    |
| Scott               | Erik        | Roslyn Middle School         |
| Shannon             | Melissa     | Jericho Schools              |
| Silverstone         | Robert      | Hofstra University           |
| Sinclair            | Marissa     | Jericho Schools              |
| Skiadas             | Katarina    | The Wheatley School          |
| Smith               | Jim         | Oceanside High School        |
| Smith               | Kevin       | Kennedy High School POB      |
| Soundias            | Natasha     | Woodland Middle School       |
| Spiegel             | Elizabeth   | Herricks High School         |
| Spinnato            | Sophia      | Syosset High School          |
| Spriggs             | Marguerite  | Clarke High School           |
| Squillace           | John        | Elmont Memorial High School  |
| Stack               | Carolyn     | Roslyn High School           |
| Steffens            | Josh        | Roslyn High School           |
| Steffens            | Josh        | Roslyn High School           |
| Sundberg            | Brian       | Northport High School        |
| Tallarine           | Lauren      | Manhasset High School        |
| Titolo              | John        | Bethpage High School         |
| Tucker              | Kristin     | Herricks High School         |
| Turato              | Nicole      | Herricks Middle School       |
| Vallone             | Joseph      | Suffolk Community College    |
| Walker              | Cory        | South Woods Middle School    |
| Wallad              | Carrie-Ann  | Herricks High School         |
| Weisenseel          | Kelly       | Lawrence Middle School       |
| Wolf                | Christina   | Oceanside Middle School      |
| Wolfort             | Adam        | Schreiber High School        |
| Wong                | Nicole      | Syosset High School          |
| Xavier              | Nancy       | Oceanside Middle School      |
| Young               | Diana       | Garden City High School      |

| <b>Last Name</b>                | <b>First Name</b> | <b>Grade</b> | <b>Team</b> | <b>Topic</b>   | <b>Room</b> |
|---------------------------------|-------------------|--------------|-------------|--|-------------|
| <b>Bethpage High School</b>     |                   |              |             |  |             |
| Maiti                           | Soham             | 9            |             | Time Dilation and Length Contradiction                     | BA112       |
| <b>Clarke High School</b>       |                   |              |             |  |             |
| Anest                           | Kaylin            | 9            |             | Binary Code  | BA201       |
| Hirshon                         | Jesse             | 9            |             | Math in Minecraft  | BA203       |
| Lim                             | Nathaniel         | 9            |             | Ellipses   | BA208       |
| Mathew                          | Joel              | 9            |             | Matrices   | BA216       |
| Melkun                          | Jonathan          | 9            |             | The Golden Ratio   | BA217       |
| Collica                         | Joseph            | 10           |             | Margin of Error  | A109        |
| Ramlall                         | Justin            | 10           |             | The Fourth Dimension                                       | A209        |
| Sayed                           | Pantho            | 10           |             | Mathematics in Astronomy                                   | A212        |
| Shah                            | Aashini           | 10           |             | Coloring in Mathematics                                    | BR19        |
| Suri                            | Pavit             | 10           |             | Heron's Formula  | BR200       |
| <b>Commack High School</b>      |                   |              |             |  |             |
| Muthukumar                      | Pragati           | 9            |             | The Mathematics of GPS                                     | HA109       |
| <b>Doshi STEM- Nassau Boces</b> |                   |              |             |  |             |
| Cecere                          | Jack              | 9            |             | The Math Behind a Rubiks Cube                              | D11         |
| Chow                            | Nelson            | 9            |             | Math Involved in Swimming                                  | D14         |
| Lewkowicz                       | Michal            | 9            |             | Gravity  | D15         |
| Marco                           | Tony              | 9            |             | The Math Involved in War                                   | D16         |
| Quane                           | Sean              | 9            |             | Math in Soccer   | D17         |
| Shah                            | Asghar            | 9            |             | The Evolution of Marthematics                              | D20         |
| Agriogianis                     | Charles           | 10           |             | Comparing Cost & Efficiency of Nuclear Power & Fossil Fuel | BR205       |
| Chowdhury                       | Nabil             | 10           |             | Exploratoin of the Frog Puzzle and Variances               | BR206       |
| Guerra                          | Pacika            | 10           |             | Prime Numbers  | GAL13       |
| Kaur                            | Manpreet          | 10           |             | The Mathematics Behind Ice Skating                         | GAL14       |
| Liddie                          | Anthony           | 10           |             | Infinitesimals   | GAL16       |
| Malhotra                        | Sonali            | 10           |             | The Mathematics in Structural Design                       | GAL17       |
| <b>East Meadow High School</b>  |                   |              |             |  |             |
| Arora                           | Anusha            | 9            |             | Algebraic Topology   | D101        |
| Lopez                           | Laura             | 9            |             | The Mathematics in Clocks                                  | D102        |
| Ali                             | Mehrin            | 10           |             | Taylor Series  | GAL18       |
| Moghni                          | Adeena            | 10           |             | The Mathematics in Game Theory                             | GAL242      |
| Diamond                         | Jordan            | 11           |             | Related Rates  | C306        |
| Floody                          | Erin              | 11           |             | Mathematics of Bouncing Balls                              | M119        |
| Sugrim                          | Kirkland          | 11           |             | Mathematics of Origami                                     | N13         |
| Uppal                           | Nikita            | 11           |             | Computational Alogorithms                                  | N15         |
| <b>Elmont Memorial HS</b>       |                   |              |             |  |             |
| Browne                          | Kyla              | 8            |             | Imaginary and Complex Numbers                              | BA13        |
| Reale                           | Victoria          | 8            |             | The Relationship Between Astronomy and Math                | BA14        |
| Mamun                           | Sameer            | 9            |             | Mathematics and Rainbows                                   | D104        |
| Munn                            | Brianna           | 9            |             | Series and Sequences                                       | HA109       |
| Browne                          | Dominique         | 10           |             | Hypercomplex Numbers                                       | CHP117      |

| <u>Last Name</u>                 | <u>First Name</u> | <u>Grade</u> | <u>Team</u> | <u>Topic</u>  | <u>Room</u> |
|----------------------------------|-------------------|--------------|-------------|---|-------------|
| Tugbobo                          | Ifeoluwa          | 10           |             | Euler Mathematical Connections                          | CHP31       |
| Phillip                          | Joshua            | 11           |             | Math and the Stock Market                               | N18         |
| <b>Friends Academy</b>           |                   |              |             |   |             |
| Bo                               | Morgan            | 10           |             | Music and Math  | L201        |
| Brown                            | Ashley            | 10           |             | Fibonacci sequence, number spiral, and the golden ratio | L203        |
| Miller                           | Jennie            | 10           |             | Knot Theory and its Applications                        | L211        |
| Silverstein                      | Paige             | 10           |             | Chaos Theory  | MA20        |
| <b>Garden City High School</b>   |                   |              |             |   |             |
| Heavey                           | Patrick           | 9            |             | Graph Theory  | BA112       |
| McGannon                         | Christian         | 9            |             | Sabermetrics  | BA201       |
| Schmitt                          | Timothy           | 9            |             | Cellular Automata                                       | BA203       |
| Campbell                         | Alana             | 10           |             | Geometric Approach to Quadratics                        | MA22        |
| Choi                             | Julia             | 10           |             | Solving quadratics geometrically                        | ME10B       |
| Granville                        | Matthew           | 10           |             | Fantasy Sports  | W100A       |
| Grlic                            | Thomas            | 10           |             | Predicting Smartness                                    | W100B       |
| Rieger                           | Caroline          | 10           |             | Matrices and Animation                                  | W204        |
| Gallic                           | Claire            | 11           |             | Math and Poverty  | N19         |
| Galzerano                        | Katherine         | 11           |             | Newton's Method for curves                              | N20         |
| Shaps                            | Samantha          | 11           |             | Curve Fitting   | R13         |
| Woo                              | Seunghyun         | 11           |             | Elliot Wave Theory                                      | R101        |
| <b>Great Neck North HS</b>       |                   |              |             |   |             |
| Lu                               | Christopher       | 9            |             | The truth behind Galileo's infinite sets                | D104        |
| Rothbaum                         | Joshua            | 9            |             | Data on the diamond: sabermetric analysis in baseball   | D102        |
| Chen                             | Luhan             | 10           |             | Taylor Series Expansion                                 | W204        |
| <b>HAFTR</b>                     |                   |              |             |   |             |
| Sacks                            | Rachel            | 11           |             | The Enigmatic Qualities of Prime Numbers                | R102        |
| <b>Half Hollow Hills HS East</b> |                   |              |             |   |             |
| Wagner                           | Kasim             | 10           |             | The 4th Dimension                                       | A109        |
| <b>Herricks High School</b>      |                   |              |             |   |             |
| Kim                              | Christina         | 9            |             | Pythagoras  | BA208       |
| Lau                              | Joanna            | 9            |             | Fractals and Cancer                                     | BA216       |
| Liu                              | Winston           | 9            |             | Strength of US Currency and its Effects                 | BA217       |
| Patel                            | Uttav             | 9            |             | Integral Calculus                                       | D14         |
| Rawal                            | Soham             | 9            |             | Inferential Statistics in Medicine                      | D15         |
| Rocco                            | Andrew            | 9            |             | Trajectory of Projectiles                               | D16         |
| Soni                             | Hita              | 9            |             | Conic Sections in Outer Space                           | D17         |
| Tsai                             | Andrew            | 9            |             | Divine Proportion/Golden Ratio                          | D20         |
| Hsu                              | Janet             | 10           |             | Computer Graphics                                       | A209        |
| Makwana                          | Keya              | 10           |             | Unit Circle   | A212        |
| Patel                            | Radhika           | 10           |             | Infinity: Is Infinity a Number or a Radical Concept?    | A212        |
| Ravindran                        | Megha             | 10           |             | Binomial Distribution Probability                       | BR200       |
| Sawhney                          | Aman              | 10           |             | LaPlace Transform Application                           | BR205       |
| Singla                           | Anisha            | 10           |             | The Golden Ratio and the Fibonacci Sequence             | BR206       |
| Wu                               | Angela            | 10           |             | Spherical Geometry                                      | GAL13       |

| Last Name              | First Name | Grade | Team | Topic                                      | Room   |
|------------------------|------------|-------|------|--|--------|
| Ahmed                  | Nibras     | 11    |      | Chaos Theory                               | R106   |
| Chen                   | Alan       | 11    |      | Group Theory                               | R108   |
| Jung                   | Bongseok   | 11    |      | Statistics in Medicine                     | R109   |
| Koe                    | Nora       | 11    |      | Data Science                               | R110   |
| Pathak                 | Naeha      | 11    |      | Cryptography                               | R111   |
| Herricks Middle School |            |       |      |  |        |
| Agarwal                | Aarya      | 7     |      | Genetics and Probability                   | BRW101 |
| Chiang                 | Selina     | 7     |      | Pythagorean Triples                        | BRW102 |
| Cho                    | Ludia      | 7     |      | Sierpinski's Triangle (Fractals)           | BRW103 |
| Chou                   | Alison     | 7     |      | Game Theory                                | BRW104 |
| Goyal                  | Abhinav    | 7     |      | Game Theory                                | BRW106 |
| Joseph                 | Victoria   | 7     |      | Fractals                                   | BRW201 |
| Kim                    | Andrew     | 7     |      | Logarithms                                 | BRW202 |
| Koe                    | Justin     | 7     |      | Pascal's Triangle                          | BRW203 |
| Krishnamoorthy         | Preethi    | 7     |      | Matrices and Determinants                  | BRW204 |
| Kumar                  | Sanketh    | 7     |      | Matrices and Determinants                  | BRW101 |
| Lakshmanan             | Haritha    | 7     |      | Fibonacci Numbers                          | BRW102 |
| Leung                  | Samuel     | 7     |      | The Law of Cosines                         | BRW103 |
| Pinzon                 | Kyle       | 7     |      | Matrices and Determinants                  | BRW104 |
| Rasquinha              | Rhea       | 7     |      | Golden Ratio                               | BRW106 |
| Talapatra              | Arjun      | 7     |      | Limits                                     | BRW201 |
| Tan                    | Chiara     | 7     |      | Matrices                                   | BRW202 |
| Wei                    | Emily      | 7     |      | Parabolas                                  | BRW203 |
| Chen                   | Derek      | 8     |      | Topology                                   | BA15   |
| Gupta                  | Rohan      | 8     |      | Differential Calculus                      | BA16   |
| Hsu                    | Carrie     | 8     |      | Cubic Functions                            | BA18   |
| Joseph                 | Angela     | 8     |      | Pascal's Triangle                          | BA20   |
| Leung                  | Jonathan   | 8     |      | Fourth Dimension                           | BA25   |
| Paciullo               | Michael    | 8     |      | Voting Systems                             | BA26   |
| Patel                  | Shreya     | 8     |      | Conic Sections                             | BA100  |
| Ritchie                | Kathryn    | 8     |      | Trigonometry                               | BA102  |
| Savani                 | Shubh      | 8     |      | Logarithms                                 | BA103  |
| Singhal                | Rahul      | 8     |      | Vectors                                    | BA105  |
| Soni                   | Harsh      | 8     |      | Limits                                     | BA106  |
| Thyagaray              | Joanna     | 8     |      | The Law of Cosines                         | BA111  |
| Tucker                 | Emily      | 8     |      | Matrices and Determinants                  | BA13   |
| Won                    | Rachel     | 8     |      | Tetrahedron                                | BA14   |
| Hicksville Schools     |            |       |      |  |        |
| Singh                  | Navptreet  | 7     |      | p  | BRW204 |
| Gupta                  | Sejal      | 8     |      | Math, Yoga, , and Meditation               | BA15   |
| Jain                   | Viveka     | 8     |      | Probability                                | BA16   |
| Raval                  | Priyansh   | 10    |      | Mass Point Geometry                        | GAL14  |
| Ansari                 | Adil       | 11    |      | The Vitruvian Man: The Math Behind the Man | R112   |
| Braich                 | Jasdeep    | 11    |      | Traveling Salesman Problem                 | R201   |

| Last Name                | First Name    | Grade | Team | Topic   | Room   |
|--------------------------|---------------|-------|------|---|--------|
| Dave                     | Aamir         | 11    |      | Proving Tachyon Principles                              | R206   |
| Filigenzi                | Dakota        | 11    |      | Slide Rule Mathematics                                  | R213   |
| Gomez                    | Jorge         | 11    |      | Zipf's Law  | SC218  |
| Jiang                    | Johnson       | 11    |      | Reimannian Geometry                                     | S107   |
| Mathew                   | Shana         | 11    |      | The Monty Hall Problem                                  | C306   |
| Mazhuvanchery            | Jose          | 11    |      | DeMoivre's Theorem                                      | M119   |
| Mukadum                  | Fatemah       | 11    |      | The Math of Remote Sensing                              | N13    |
| Reed                     | Austin        | 11    |      | Vectors   | N15    |
| Singh                    | Kyle          | 11    |      | Fermat's Last Theorem                                   | N18    |
| Srinivas                 | Sailesh       | 11    |      | The Chinese Remainder Theorem                           | N19    |
| Tsang                    | Sarah         | 11    |      | Mathematical Magic                                      | N20    |
| Yang                     | Jason         | 11    |      | Abacus Math   | R13    |
| Holy Trinity High School |               |       |      |   |        |
| Barry                    | John          | 9     |      | Pascal's Triangle                                       | D101   |
| Feng                     | Siyan (Frank) | 9     |      | Abacus  | D102   |
| Harten                   | Patrick       | 9     |      | Math and NASCAR   | D104   |
| Huynh                    | Anthony       | 9     |      | Cryptography  | BA112  |
| Jiang                    | Bing lun      | 9     |      | Math and Music  | HA109  |
| Nicholson-Dews           | Bryan         | 9     |      | Fractals  | BA201  |
| Patel                    | Harshil       | 9     |      | Fourth Dimension  | BA203  |
| Skrabut                  | Katelynn      | 9     |      | Fibonacci Sequence                                      | BA208  |
| Basel                    | Margaret      | 10    |      | Cryptography  | GAL16  |
| Campos                   | Andrea        | 10    |      | The Four Color Theorem                                  | GAL17  |
| Clabby                   | Kelsey        | 10    |      | Math in Volleyball                                      | GAL18  |
| DiGiorgio                | Ambar         | 10    |      | Math and Astronomy                                      | GAL242 |
| DiGrazia                 | Julia         | 10    |      | Mathematics and Bubbles                                 | CHP117 |
| Farino                   | Louis         | 10    |      | The Golden Ratio  | CHP31  |
| Jacob                    | Amy           | 10    |      | Mathematics of Spirals                                  | L201   |
| Kossegi                  | Timothy       | 10    |      | Fractals  | L203   |
| Lescoe                   | Kellie        | 10    |      | Cryptography  | L211   |
| Muller                   | Hannah        | 10    |      | Fractals  | MA20   |
| Nguyen                   | Carol         | 10    |      | Mathematics in Monopoly                                 | MA22   |
| Parmar                   | Ashwinder     | 10    |      | Mathematics of Juggling                                 | ME108  |
| ICPS                     |               |       |      |   |        |
| Chen                     | Keyi          | 10    |      | Common Ratios in Right Triangles                        | W100A  |
| James                    | Justin        | 10    |      | Prime Triplets and Twin Primes                          | W100B  |
| Jewel                    | Joseph        | 10    |      | Perpendicular Bisector of Lines with Points on a Circle | W204   |
| Li                       | Cindy         | 10    |      | Fractal Dimension of Long Island                        | A109   |
| Mullan                   | Ashley        | 10    |      | Exploration Mobius Strip                                | A209   |
| Ravishankar              | Jhanvi        | 10    |      | Effect of Education on American Salaries                | A212   |
| Celic                    | Dan           | 11    |      | Proving Higher Dimension Figures Using Trig             | R101   |
| Clopper                  | Alex          | 11    |      | Squares, Cubes, Triangle Numbers                        | R102   |
| Marcos                   | Valery        | 11    |      | Height Plays a Factor in Projectile Motion              | R106   |
| Postiglione              | Thomas        | 11    |      | Consecutive Fibonacci Number in Quadratics              | R108   |

| Last Name                      | First Name   | Grade | Team | Topic  | Room   |
|--------------------------------|--------------|-------|------|--|--------|
| <b>Jericho High School</b>     |              |       |      |  |        |
| Xu                             | David        | 9     |      | Ant Colony Optimization                                  | BA216  |
| Basavaraju                     | Rohan        | 10    |      | Gamma Function   | A212   |
| Cen                            | Melanie      | 10    |      | Chaos Theory   | BR200  |
| Chen                           | Caroline     | 10    |      | Medication Adherence and Preventable Expenses: Case      | BR205  |
| Chowdhary                      | Ayana        | 10    |      | Matrices and Graphs                                      | BR206  |
| Gan                            | Emma         | 10    |      | Molecular Geometry                                       | GAL16  |
| Golechha                       | Aishwarya    | 10    |      | Correlation Between Math and Music                       | GAL13  |
| Lo                             | Dennis       | 10    |      | Paradigms of Condorcet Voting Systems                    | GAL14  |
| Park                           | Kevin        | 10    |      | Paradoxes in Mathematics                                 | GAL17  |
| Venkatesh                      | Harsha       | 10    |      | Simpson's Paradox  | GAL18  |
| Wong                           | Benjamin     | 10    |      | Using Binary Star Systems to Determine Stellar Masses    | CHP117 |
| Wong                           | Kristal      | 10    |      | ISBN Codes and Credit Card Numbers                       | GAL242 |
| Xu                             | Alex         | 10    |      | Conway's Game of Life                                    | CHP31  |
| Agarwal                        | Shimona      | 11    |      | Optimization   | C306   |
| Ames                           | Justin       | 11    |      | Cyclic Primes  | R109   |
| Chen                           | Harrison     | 11    |      | Rubik's Cube and God's Number                            | R110   |
| Lee                            | Nate         | 11    |      | Cracking the German Enigma                               | R112   |
| Li                             | Sandra       | 11    |      | Statistical Trends in Swimming Records                   | R111   |
| Lin                            | Jonathon     | 11    |      | Banquet Curves   | R201   |
| Munayirji                      | Brittney     | 11    |      | Development of Logarithms                                | R206   |
| Pahlavan                       | Adam         | 11    |      | A Novel Method for Wedging Virtual Electrodes            | R213   |
| Ritter                         | Brett        | 11    |      | Counting Cards and Expected Returns                      | SC218  |
| Sethi                          | Neil         | 11    |      | Investigating Lurking Variables                          | S107   |
| Singhal                        | Rishi        | 11    |      | Dividing With Zero                                       | M119   |
| Sridhar                        | Aarthi       | 11    |      | Volume of Spheres  | N13    |
| Wang                           | Shuqi(Nancy) | 11    |      | Ways to Win Tic Tac Toe                                  | N15    |
| <b>Kennedy High School POB</b> |              |       |      |  |        |
| Shine                          | Audrey       | 9     |      | Zipf's Law   | BA217  |
| Aber                           | Rachel       | 11    |      | Gnomonic Projection                                      | N18    |
| Ash                            | Alec         | 11    |      | Force Field Function for Molecules with Modified Bases   | N19    |
| Biggins                        | Celia        | 11    |      | Matrix Algebra   | N20    |
| Blum                           | Talia        | 11    |      | Continued Fractions and Diophantine Equations and Pell's | R13    |
| Cohen                          | Julia        | 11    |      | Barth Sextic   | R101   |
| Danziger                       | Philip       | 11    |      | Boolean Algebra and Logic                                | R102   |
| Frucht                         | Samantha     | 11    |      | Truncated Icosahedrons                                   | R106   |
| Fryman                         | Alexandra    | 11    |      | Application of Markov Chains to Environmental Issues     | R108   |
| Getzler                        | Jason        | 11    |      | Lagrange's Theorem                                       | R109   |
| Getzler                        | Lauren       | 11    |      | Monty Hall Problem                                       | R110   |
| Guido                          | Daniela      | 11    |      | Pascal's Triangle  | R111   |
| Israel                         | Adam         | 11    |      | The Golden Ratio   | R112   |
| Kang                           | Sunwoo       | 11    |      | Fractal Geometry   | R201   |
| Kaur                           | Aashna       | 11    |      | Korn Snowflake Curve and Fractals                        | R206   |
| Kuster                         | Max          | 11    |      | Spherical Spirals  | R213   |

| <u>Last Name</u>       | <u>First Name</u> | <u>Grade</u> | <u>Team</u> | <u>Topic</u>                        | <u>Room</u> |
|------------------------|-------------------|--------------|-------------|-------------------------------------|-------------|
| Lam                    | Sydney            | 11           |             | Four Color Theorem                  | SC218       |
| Mathew                 | Vincy             | 11           |             | Matrix Exponential                  | S107        |
| Melle                  | Evan              | 11           |             | Marion Walter's Theory              | C306        |
| Morgenthal             | Michael           | 11           |             | Zipf's Law                          | M119        |
| Shah                   | Mili              | 11           |             | Inverse Square Law                  | N13         |
| Wang                   | Michelle          | 11           |             | Centered Polygonal Numbers          | N18         |
| Xenakis                | Effie             | 11           |             | Conics: Ellipses                    | N19         |
| Xenakis                | Georgia           | 11           |             | Simple Continued Fractions          | N20         |
| Yom                    | Jina              | 11           |             | Markov Chains                       | R13         |
| Lawrence High School   |                   |              |             |                                     |             |
| Baez                   | Heysil            | 9            |             | Projectiles                         | D11         |
| Bukhari                | Syed              | 9            |             | Limits                              | D14         |
| Guha                   | Anoushka          | 9            |             | Zeno's Paradoxes                    | D15         |
| Kirchner               | Brooke            | 9            |             | Codes and Ciphers                   | D16         |
| Monroy                 | David             | 9            |             | Alternative Energy                  | D20         |
| Peralta                | Mykaela           | 9            |             | Fuzzy Logic                         | D104        |
| Ramirez-Rivera         | Alisson           | 9            |             | Math in Sports                      | HA109       |
| Breban                 | Ethan             | 10           |             | Math in Finance                     | L201        |
| Brunson                | Ariana            | 10           |             | The Mathematics of Pi               | L203        |
| Griffin                | Aryama            | 10           |             | The Mathematics of Pi               | L211        |
| Islam                  | Mohammad          | 10           |             | Mathematics in Music                | MA22        |
| Merchan                | Kellyn            | 10           |             | Pythagorean Theorem                 | ME10B       |
| Portillo               | Stacy             | 10           |             | Synthetic Division                  | W100A       |
| Vacchio                | Perry             | 10           |             | Pascal's Triangle                   | W100B       |
| Velasquez              | Andrew            | 10           |             | Fermat's last Theorem               | W204        |
| Best                   | Ciara             | 11           |             | Matrices                            | R101        |
| Leiva                  | Astry             | 11           |             | Forensic Mathematics                | R111        |
| Lerebours              | Robyn             | 11           |             | Math in Saving for College          | R110        |
| Simao                  | Michael           | 11           |             | The Life and Story of Pi            | R201        |
| Lawrence Middle School |                   |              |             |                                     |             |
| Roth                   | Brooke            | 7            | Team A      | Pascal's Triangle                   | HE100       |
| Sharin                 | Amy               | 7            | Team A      | Pascal's Triangle                   | HE100       |
| Daruvala               | Nadar             | 7            | Team B      | Friendly, Perfect and Prime Numbers | HE100       |
| Libbey                 | Carson            | 7            | Team B      | Friendly, Perfect and Prime Numbers | HE100       |
| Vairo                  | Thomas            | 7            | Team B      | Friendly, Perfect and Prime Numbers | HE100       |
| Rampersaud             | Deven             | 8            |             | Fibonacci Sequence                  | BA18        |
| Mundell                | Nathan            | 8            | Team A      | The ZipF Mystery                    | SC142       |
| Scroppo                | Noah              | 8            | Team A      | The ZipF Mystery                    | SC142       |
| Herrera                | Cristina          | 8            | Team B      | Chaos Theory                        | HE101       |
| Sandhu                 | Bhawan            | 8            | Team B      | Chaos Theory                        | HE101       |
| Cohen                  | Lia               | 8            | Team C      | Cancer and Genetics                 | SC141       |
| Flores                 | Maria             | 8            | Team C      | Cancer and Genetics                 | SC141       |

| Last Name                | First Name  | Grade | Team | Topic   | Room   |
|--------------------------|-------------|-------|------|---|--------|
| Long Beach Middle School |             |       |      |   |        |
| Arengo                   | Maya        | 7     |      | The Golden Ratio  | BRW101 |
| Arengo                   | Uma         | 7     |      | Imaginary and Complex Numbers                           | BRW103 |
| MacArthur High School    |             |       |      |   |        |
| Chowdhury                | Saajid      | 9     |      | Collatz Conjecture                                      | BA112  |
| Portello                 | Nicholas    | 9     |      | The History of Controversies of the Pythagorean Theorem | BA201  |
| Cassano                  | Erin        | 10    |      | Carbon Nanotubes  | A109   |
| Fischer                  | Emily       | 10    |      | Dimensions and Magnitudes of Tsunamis                   | A209   |
| Liu                      | Maggie      | 10    |      | Analysis of Theorems and Axioms of Origami              | A212   |
| Spinelli                 | Delilah     | 10    |      | Volumes of solids of revolution                         | A212   |
| Zhang                    | Helen       | 10    |      | Math in Architecture                                    | BR200  |
| Butcher                  | Casey       | 11    |      | Economic Viability of Sewer Systems                     | R112   |
| Manhasset High School    |             |       |      |   |        |
| Farrell                  | Michael     | 9     |      | The Postage Stamp Problem                               | BA203  |
| Hitchcock                | Jack        | 9     |      | Card Tricks   | BA208  |
| Huang                    | He (Duncan) | 9     |      | The Octagon   | BA216  |
| Mitaritonna              | Jacklyn     | 9     |      | Tim and Tom's Financial Adventure                       | D11    |
| Schlaefel                | Jay         | 9     |      | Rate Paradoxes  | BA217  |
| Tauckus                  | Emma        | 9     |      | Hazards of Heavy Metal                                  | D14    |
| Thalheimer               | Bryce       | 9     |      | Modeling with Matrices                                  | D15    |
| Themelis                 | Christopher | 9     |      | Mathematics and Sports                                  | D16    |
| Tortora                  | Ross        | 9     |      | Postage Stamp Problem                                   | D17    |
| Abruzzo                  | Massimo     | 10    |      | Investment and Growth                                   | BR205  |
| Caamano                  | Cristian    | 10    |      | Speedometer and Odometer Accuracy                       | BR206  |
| Cargiulo                 | Jack        | 10    |      | Investments   | GAL13  |
| Corcoran                 | Sean        | 10    |      | Sequences and How They are Used                         | GAL14  |
| De Castro                | Robert      | 10    |      | The Mathematics of Bond Pricing and Interest Rate Risk  | GAL16  |
| De Gaudenzi              | Jack        | 10    |      | Fishing and the Future                                  | GAL17  |
| Gold                     | Daniel      | 10    |      | Elementary Game Theory                                  | GAL18  |
| Gudino                   | Jared       | 10    |      | The Average of Rates and the Average Rate               | GAL242 |
| Haigian                  | Claudine    | 10    |      | Mission Possible: Curiosity's Flight to Mars            | CHP117 |
| Harragan                 | Kyle        | 10    |      | Rate Paradoxes  | CHP31  |
| Kassabian                | Alex        | 10    |      | Area of a Triangle                                      | L201   |
| Kiley                    | Emily       | 10    |      | Iteration and Chaotic Dynamics                          | L203   |
| Locurto                  | Marissa     | 10    |      | Examining Applied Rational Functions                    | L211   |
| Maleno                   | Alex        | 10    |      | The Math Behind Card Tricks                             | MA20   |
| Meyer                    | Christopher | 10    |      | To Punt or Not to Punt                                  | MA22   |
| Petras                   | Katherine   | 10    |      | The Utility of Insurance                                | ME10B  |
| Pidedjian                | Adam        | 10    |      | Punting Probabilities                                   | W100A  |
| Thompson                 | Christopher | 10    |      | Analyzation of Sickle Cell Alleles                      | W100B  |
| Tsoumpariotis            | Angeliki    | 10    |      | Concepts in Math and Science                            | W204   |
| Bakshandeh               | Michael     | 11    |      | The Physics Behind a Golf Swing                         | R206   |
| Giovanelli               | Frederick   | 11    |      | GPS Navigation  | R213   |
| Kim                      | Benjamin    | 11    |      | Modeling  | SC218  |

| <u>Last Name</u>                  | <u>First Name</u> | <u>Grade</u> | <u>Team</u> | <u>Topic</u>                                 | <u>Room</u> |
|-----------------------------------|-------------------|--------------|-------------|--|-------------|
| Li                                | Bowen             | 11           |             | Area Beneath a Curve                         | S107        |
| Psyllos                           | John              | 11           |             | The Super Apple Collider (Physics)           | C306        |
| Reppucci                          | David             | 11           |             | Voting and Auction Fairness                  | M119'       |
| Thalheimer                        | Jessica           | 11           |             | Food Service and Dietary Requirements        | N13         |
| Van Roy                           | Parker            | 11           |             | Sustainable Energy Production by Black Holes | N15         |
| Whelan                            | Thomas            | 11           |             | The Texas Lottery                            | N18         |
| <b>Mattlin Middle School</b>      |                   |              |             |  |             |
| Varghese                          | Eshwin            | 8            |             | Sub-linear Time Algorithms                   | BA20        |
| <b>North Shore Hebrew Academy</b> |                   |              |             |  |             |
| Schneck                           | Eden              | 9            |             | Angle of Incidence and Its Effect on Seasons | D20         |
| Gilman                            | Benjamin          | 10           |             | Gyroscopes                                   | A109        |
| Hajibay                           | Aryeh             | 10           |             | Constructions of Conic Sections              | A209        |
| <b>North Shore High School</b>    |                   |              |             |  |             |
| Bello                             | Hally             | 10           |             | Perfect Triangles                            | A212        |
| Berlin                            | Jacob             | 10           |             | Arbelos Properties                           | A212        |
| Bischoff                          | Frederic          | 10           |             | Polar Coordinates                            | BR200       |
| Fossett                           | Danielle          | 10           |             | Ptolemy & Cyclic Quadrilaterals              | BR205       |
| Glennon                           | Isabelle          | 10           |             | Five-Con Triangles                           | BR206       |
| Keenan                            | Riley             | 10           |             | Dividing a Line Segment                      | GAL13       |
| Reilly                            | Kinsale           | 10           |             | Circular Inversions                          | GAL14       |
| Roth                              | Bryce             | 10           |             | Hypotenuse Restrictions                      | GAL16       |
| Ruisi                             | Michael           | 10           |             | Escribed Circles to Triangles                | GAL17       |
| Santucci                          | Lauren            | 10           |             | Circle Partitioning                          | GAL18       |
| Sharkey                           | Robert            | 10           |             | Conics and Pythagorean Triples               | GAL242      |
| Zaffiro                           | Gabrielle         | 10           |             | Ellipse: Locus Vs. Cone Slice                | CHP117      |
| <b>North Shore Middle School</b>  |                   |              |             |  |             |
| Blumenthal                        | Sophie            | 7            |             | Magic Squares                                | BRW104      |
| Caldwell                          | Dean              | 7            |             | Magic Squares                                | BRW106      |
| Castle                            | Lucas             | 7            |             | Math in Roller Coasters                      | BRW201      |
| Drivas                            | Matt              | 7            |             | Pascals Triangle                             | BRW202      |
| Efstathiadis                      | Christina         | 7            |             | Zeno's Paradox                               | BRW203      |
| Hagen                             | Lauren            | 7            |             | Codes and Ciphers                            | BRW204      |
| Jacklin                           | Cole              | 7            |             | Pascals Triangle                             | BRW101      |
| Lenney                            | Scott             | 7            |             | Fractals                                     | BRW102      |
| Mandell                           | Aiden             | 7            |             | Codes and Ciphers                            | BRW102      |
| Martin                            | Lucia             | 7            |             | Codes and Ciphers                            | BRW103      |
| McLellan                          | Andrew            | 7            |             | Tessellations                                | BRW104      |
| Moughal                           | Sarah             | 7            |             | Plantonic Solids                             | BRW106      |
| Reynolds                          | Patrick           | 7            |             | Fractals                                     | BRW202      |
| Rosencrans                        | Sam               | 7            |             | Illusions                                    | BRW201      |
| Rosencrans                        | Sophie            | 7            |             | Codes and Ciphers                            | BRW203      |
| Stylianou                         | Michalis          | 7            |             | Math in Roller Coasters                      | BRW204      |
| Sun                               | Richie            | 7            |             | Fractals                                     | BRW101      |
| Weber                             | Kelly             | 7            |             | Zeno's Paradox                               | BRW103      |

| <u>Last Name</u>               | <u>First Name</u> | <u>Grade</u> | <u>Team</u> | <u>Topic</u>   | <u>Room</u> |
|--------------------------------|-------------------|--------------|-------------|--|-------------|
| Gillman                        | Harrison          | 8            |             | Conic Sections   | BA25        |
| Hartman                        | Alyssa            | 8            |             | Rubik's Cube   | BA26        |
| Hoell                          | Dylan             | 8            |             | Origami  | BA100       |
| Hunt                           | Katherine         | 8            |             | Math in Aviation   | BA102       |
| McCreery                       | Kyra              | 8            |             | Euler's Number   | BA103       |
| Purcell                        | Henry             | 8            |             | Fractals   | BA105       |
| Reilly                         | Esme              | 8            |             | Topology   | BA106       |
| Scala                          | Claudia           | 8            |             | Magic Squares  | BA111       |
| Thoet                          | Carolyn           | 8            |             | Complex Numbers  | BA14        |
| <b>Oceanside High School</b>   |                   |              |             |  |             |
| Baghan                         | Osman             | 9            |             | Sierpinski Triangle                                      | D101        |
| Haertig                        | Vanessa           | 9            |             | Pick's Theorem   | D102        |
| Hong                           | Ryan              | 9            |             | Which type off lock provides the best security?          | D104        |
| James                          | Danielle          | 9            |             | Sierpinski Triangle                                      | HA109       |
| Rovello                        | Etzio             | 9            |             | Sierpinski Triangle                                      | BA112       |
| Sanchez                        | Jacob             | 9            |             | Polygonal Numbers  | BA201       |
| Utrecht                        | Alex              | 9            |             | Four Color Theorem                                       | BA203       |
| Dauber                         | Jack              | 10           |             | Game Theory and World War                                | CHP31       |
| Dimitrakas                     | Nickolas          | 10           |             | Global Warming Effects                                   | L201        |
| Pagona                         | Nina              | 10           |             | Palindromic Cycles                                       | L203        |
| Somerstein                     | Sloane            | 10           |             | The mathematics of traffic                               | L211        |
| Wright                         | Jacqueline        | 10           |             | Logistic Growth in Ebola Outbreak                        | MA20        |
| Calboreanu                     | Lorelei           | 11           |             | Neuronal Interpretation of Bayes' Rule                   | N19         |
| Cavale                         | Jenna             | 11           |             | Linear Diophantine Equations and Euclid's Algorithm      | N20         |
| Curra                          | Annalicia         | 11           |             | Linear Diophantine Equations and Euclid's Algorithm      | R13         |
| Hindin                         | Spencer           | 11           |             | Optimal Arc of the 3 Point Shot                          | R101        |
| Jones                          | Chelsea           | 11           |             | Barycentric coordinates in Animation                     | R102        |
| Markoulli                      | Andrew            | 11           |             | Two Dimensional Motion in Soccer                         | R106        |
| Pocress                        | Michael           | 11           |             | Modeling Disease Progression with Differential Equations | R108        |
| Sokolsky                       | Samantha          | 11           |             | Exploring Rate of Change in Pick's Theorem               | R109        |
| Wollweber                      | Thomas            | 11           |             | Analysis of Deer Population in America                   | R110        |
| <b>Oceanside Middle School</b> |                   |              |             |  |             |
| Aizer                          | Ryan              | 8            |             | Imaginary Numbers  | BA15        |
| Brennan                        | Nicholas          | 8            |             | Tower of Hanoi   | BA13        |
| Carlins                        | Makayla           | 8            |             | Map Coloring & Conflict Resolution                       | BA16        |
| Crowley                        | Skyy              | 8            |             | If I had a Million Dollars                               | BA18        |
| Kleyman                        | Alison            | 8            |             | Map Coloring   | BA20        |
| Kucharnik                      | Christopher       | 8            |             | Seven Bridges of Konigsberg                              | BA25        |
| Lisi                           | Nicholas          | 8            |             | Pentagonal Numbers                                       | BA26        |
| Risi                           | Alessandro        | 8            |             | Sierpinski's Triangle                                    | BA100       |
| Ritter                         | Blake             | 8            |             | Investing Money in Savings Accounts                      | BA103       |
| Ruiz                           | Ashley            | 8            |             | Can You Solve the Tower of Hanoi?                        | BA102       |
| Amthor                         | Emma              | 8            | Team A      | Relationship bewteen Vertices, Edges, and Faces          | SC142       |
| Pocress                        | Elana             | 8            | Team A      | Relationship bewteen Vertices, Edges, and Faces          | SC142       |

| <b>Last Name</b>            | <b>First Name</b> | <b>Grade</b> | <b>Team</b> | <b>Topic</b>  | <b>Room</b> |
|-----------------------------|-------------------|--------------|-------------|---|-------------|
| Armengau                    | Gabriella         | 8            | Team B      | Tower of Hanoi  | SC143       |
| Nudelman                    | Justin            | 8            | Team B      | Tower of Hanoi  | SC143       |
| Bier                        | Jack              | 8            | Team C      | Tower of Hanoi  | HE100       |
| Seychell                    | Christopher       | 8            | Team C      | Tower of Hanoi  | HE100       |
| Cecil                       | Mary              | 8            | Team D      | Square Inside a Square                                      | HE101       |
| Folias                      | Christina         | 8            | Team D      | Square Inside a Square                                      | HE101       |
| Bisconti                    | Sarah             | 8            | Team E      | If I had a Million Dollars                                  | SC141       |
| Dono                        | Freddie           | 8            | Team E      | If I had a Million Dollars                                  | SC141       |
| Estevez                     | Daniel            | 8            | Team F      | Tower of Hanoi  | SC142       |
| Naseer                      | Hamza             | 8            | Team F      | Tower of Hanoi  | SC142       |
| Ford                        | Nicola            | 8            | Team G      | Polyhedrons   | SC143       |
| Passuello                   | Ryann             | 8            | Team G      | Polyhedrons   | SC143       |
| Gamarra                     | Jonathan          | 8            | Team H      | The Cannonball Problem                                      | HE101       |
| Macer                       | Zachary           | 8            | Team H      | The Cannonball Problem                                      | HE101       |
| Henn                        | Catherine         | 8            | Team I      | The Tower of Hanoi  | SC141       |
| Palmieri                    | Christina         | 8            | Team I      | The Tower of Hanoi  | SC141       |
| Piccinano                   | Jenna             | 8            | Team J      | The Pythagorean Theorem and Musical Applications            | SC143       |
| Rosano                      | Jessie            | 8            | Team J      | The Pythagorean Theorem and Musical Applications            | SC143       |
| <b>Portledge School</b>     |                   |              |             |   |             |
| Sun                         | Jerry             | 10           |             | Kepler's Second Law: Proof by Calculus                      | MA22        |
| <b>Roslyn High School</b>   |                   |              |             |   |             |
| Ginsberg                    | Hannah            | 9            |             | Inscribed circles of different shapes                       | BA208       |
| Khazzam                     | Alexa             | 9            |             | Graph theory  | BA216       |
| Leventhal                   | Emily             | 9            |             | Math Behind the perfect song                                | BA217       |
| Mintz                       | Emily             | 9            |             | Graph theory: A mathematical approach to modeling real      | D11         |
| Schiavo                     | Justin            | 9            |             | Velocity needed to get a rocket from the launchpad to orbit | D14         |
| Schneider                   | Gemma             | 9            |             | Deriving formulas to determine the number of squares,       | D15         |
| Tom                         | Stephanie         | 10           |             | Kobon Triangle Problem                                      | ME108       |
| Kong                        | Mark              | 11           |             | Conic sections and Time                                     | R111        |
| <b>Roslyn Middle School</b> |                   |              |             |   |             |
| Mayourian                   | Jacob             | 7            |             | Math in Barcodes  | BRW104      |
| Pahlevan                    | Alida             | 7            |             | Seven Bridges of Konigsberg                                 | BRW102      |
| Russ                        | Lindsey           | 7            |             | Prisoner's Dilemma  | BRW106      |
| Wachsman                    | Ethan             | 7            |             | Mathematics of projectile motion                            | BRW201      |
| Antenberg                   | Andrew            | 8            |             | Randomization   | BA103       |
| Covey                       | Adam              | 8            |             | Platonic Solid  | BA105       |
| Friedman                    | Lianna            | 8            |             | Conic Sections  | BA106       |
| Fries                       | Gabby             | 8            |             | Correlation and causation in autism                         | BA111       |
| Hakimi                      | Ariella           | 8            |             | Trig. Identities  | BA13        |
| Kafri                       | Roey              | 8            |             | Logarithms  | BA14        |
| Khazzam                     | Carly             | 8            |             | Fractals  | BA15        |
| Litvack                     | Jack              | 8            |             | Four color theorem  | BA18        |
| Rubin                       | Maddie            | 8            |             | Binary Number System  | BA16        |

| Last Name             | First Name | Grade | Team   | Topic   | Room  |
|-----------------------|------------|-------|--------|---|-------|
| Rufai                 | Feyi       | 8     |        | Golden Ratio  | BA20  |
| Stein                 | Jacob      | 8     |        | Hyperbolic )Paraboliid                                      | BA25  |
| Stoller               | Jake       | 8     |        | Conic Sections  | BA26  |
| Zhana                 | Olivia     | 8     |        | Golden Ratio  | BA100 |
| Drenis                | Liana      | 8     | Team A | Barcoding / QR codes  | HE100 |
| Fried                 | Justin     | 8     | Team A | Barcoding / QR codes  | HE100 |
| Futoran               | Daniella   | 8     | Team B | Logarithms  | HE101 |
| Perlman               | Zach       | 8     | Team B | Logarithms  | HE101 |
| Chong                 | Truman     | 9     |        | Factors of Integers   | D16   |
| Flasher               | Joshua     | 9     |        | Packing tangents circles into a exterior tangent circle     | D17   |
| Flyer                 | Daniel     | 9     |        | Packing circles into regular polygons                       | D20   |
| Goldberg              | Andrew     | 9     |        | Ailles Rectangle and thye Golden Triangle                   | D101  |
| Goodstadt             | Brynn      | 9     |        | Area: Shoelace Method                                       | D102  |
| Kim                   | Jeremy     | 9     |        | Number theory   | D104  |
| Kim                   | Sarah      | 9     |        | Triangular numbers  | HA109 |
| Koo                   | Matthew    | 9     |        | Number Theory   | BA112 |
| Krush                 | Hayden     | 9     |        | Skewness  | BA201 |
| Miller                | Harris     | 9     |        | Packing sequences - number theory                           | BA203 |
| Terbancea             | Nicholas   | 9     |        | Ratios of Circumcenters and centriods                       | BA216 |
| Tom                   | Catherine  | 9     |        | Number theory- paths in a mxn grid                          | BA208 |
| Tsao                  | Spencer    | 9     |        | Triangular arrays   | BA217 |
| Yoon                  | Kyle       | 9     |        | Arithmetic Sequence and its manifestations                  | D11   |
| Sacred Heart Academy  |            |       |        |   |       |
| Gannon                | Kelly      | 11    |        | Pythagorean Quadruples                                      | R112  |
| Schreiber High School |            |       |        |   |       |
| Romanski              | Lucas      | 9     |        | The Fundamentals at Special Relativity                      | D14   |
| Cai                   | Iris       | 10    |        | Variations of the Pascal's Triangle                         | W100A |
| Calamari              | Nicole     | 10    |        | Expanding the Justification Criteria for Solar Panel ROI    | W100B |
| Finkelstein           | Anna       | 10    |        | Studies on a Variation of the Koch Snowflake/Curve          | W204  |
| Gao                   | Alexsandra | 10    |        | Analyzing factors that effect the Tkatchev                  | A109  |
| Johnson               | Shiraz     | 10    |        | Forces on Roller Coaster Cars                               | A209  |
| Kobayashi             | Ayato      | 10    |        | Analysis of the sneaker secondary (resale) market, creating | A212  |
| Littman               | Jamie      | 10    |        | Calculating Amount of Energy Saved by Using a Reusable      | A212  |
| Oh                    | Solbi      | 10    |        | 3D Koch Snowflake vs. Original Koch Snowflake               | BR200 |
| Ruskin                | Julia      | 10    |        | Measuring the Impact of Vaccination Rates on Measles        | BR205 |
| Shi                   | Sherry     | 10    |        | Calculating and analyzing the CO2 emission as a result of   | BR206 |
| D'Alonzo              | Samantha   | 11    |        | Testing the Effectiveness of the Friendship Paradox for     | R201  |
| Ettlinger             | Jeremy     | 11    |        | Autonomous Vehicles;  | R206  |
| Feldman               | Elias      | 11    |        | Identity Theft Demographics                                 | R213  |
| Goldman               | Sarah      | 11    |        | A Mathematical approach in comparing nutrtn facts label     | SC218 |
| Hurt                  | Jordan     | 11    |        | Predicting El Nino Using Lunar Cycles                       | S107  |
| Kogan                 | Maria      | 11    |        | Analyzing the Effects of Iteration on Image Registrations   | C306  |
| Konoff                | Robert     | 11    |        | Optimizing Solar Panels With Net Metering and Adjusting     | M119  |

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| Langone                   | Dylan      | 11    |        | On the Orbital Trajectories of Comparatively Low Mass      | N13    |
| Nam                       | HyeonSeok  | 11    |        | Application of Pascal's Triangle on 3-Dimensional Network  | N15    |
| Taylor                    | Brittany   | 11    |        | Statistic Comparison of Schreiber High School Standardized | N18    |
| South Woods Middle School |            |       |        |  |        |
| Cheng                     | Evan       | 7     |        | Properties of Triangles                                    | BRW204 |
| Kopacz                    | Michael    | 7     |        | Minecraft Mathematics                                      | BRW202 |
| Lin                       | Kenneth    | 7     |        | Rubik's Cube   | BRW203 |
| Mehtani                   | Atharv     | 7     |        | Golden Ratio   | BRW102 |
| Rasquinha                 | Giselle    | 7     |        | Mendel's Law   | BRW101 |
| Louie                     | Kiersten   | 7     | Team A | Geometry by Folding Paper                                  | HE100  |
| Qian                      | Amanda     | 7     | Team A | Geometry by Folding Paper                                  | HE100  |
| Abraham                   | Ruth       | 8     |        | Codes and Ciphers  | BA102  |
| Cizmecioglu               | Aren       | 8     |        | Infinity   | BA103  |
| Klimberg                  | Julia      | 8     |        | Fibonacci Sequence   | BA105  |
| Larson                    | Claire     | 8     |        | Kepler's Law   | BA106  |
| Luo                       | Yan        | 8     |        | Pi   | BA111  |
| Santella                  | Peter      | 8     |        | Math in Sports   | BA13   |
| Shah                      | Parth      | 8     |        | Kepler's Law   | BA14   |
| Diao                      | Catherine  | 8     | Team A | Zeno's Paradoxes   | SC141  |
| Wu                        | Tiffany    | 8     | Team A | Zeno's Paradoxes   | SC141  |
| Duan                      | Vivan      | 8     | Team B | Zeno's Paradoxes   | SC142  |
| Stekol                    | David      | 8     | Team B | Zeno's Paradoxes   | SC142  |
| Alam                      | Jishaan    | 8     | Team C | Golden Ratio   | SC143  |
| Chen                      | Patrick    | 8     | Team C | Golden Ratio   | SC143  |
| Tang                      | Brandon    | 8     | Team D | Rubik's Cube   | HE101  |
| Virk                      | Manpreet   | 8     | Team D | Rubik's Cube   | HE101  |
| Guo                       | Victoria   | 8     | Team E | Astronomy and Mathematics                                  | SC141  |
| Thomas                    | Merin      | 8     | Team E | Astronomy and Mathematics                                  | SC141  |
| Datta                     | Archisha   | 8     | Team F | Infinity   | SC142  |
| Sol                       | Yvette     | 8     | Team F | Infinity   | SC142  |
| Syosset High School       |            |       |        |  |        |
| Li                        | Kevin      | 7     |        | $a^2 + b^2 = c^2$ So Much More Than $c^2$                  | BRW103 |
| Jang                      | Sophia     | 8     |        | Mathematics of Networks                                    | BA15   |
| Lam                       | Thomas     | 9     |        | Fourier Transformation                                     | D15    |
| Park                      | Aileen     | 9     |        | Proofs in Number Theory                                    | D16    |
| Abraham                   | Hannah     | 10    |        | Golden Ratios and its Application in Aesthetics            | GAL13  |
| Ardizzone                 | Matthew    | 10    |        | Physics of Riderless Bicycles                              | GAL14  |
| Arora                     | Jahnavi    | 10    |        | Color Theorem  | GAL16  |
| Chvasta                   | Mathew     | 10    |        | Cryptosystem/Mechanics of RSA                              | GAL17  |
| Goldberg                  | Jillian    | 10    |        | Shortest Networks & Steiner Points                         | GAL18  |
| Hornick                   | Evan       | 10    |        | 4th Down in Football                                       | GAL242 |
| Israel                    | Daniel     | 10    |        | Quantum Key Distribution: Key Creation Encoded             | CHP117 |
| Johari                    | Neil       | 10    |        | Machine Learning   | CHP31  |
| Li                        | Wanlin     | 10    |        | Addition of Rational Points on Elliptic Curves             | L201   |

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|-------------------------------|-------------|-------|------|---|--------|
| Tang                          | Jacquelin   | 10    |      | Fractal Geometry  | L211   |
| Chen                          | Maximillian | 11    |      | Bayesian Approach to Consumer Credit Screening            | N19    |
| He                            | Andrea      | 11    |      | Mass Points   | N20    |
| Massimilla                    | Richard     | 11    |      | Knot Theory: A Computational Analysis of States and the   | R13    |
| Menon                         | Siddharth   | 11    |      | Linear Image Processing                                   | R101   |
| Samantaray                    | Yash        | 11    |      | Roots of Unity  | R102   |
| Tang                          | Richard     | 11    |      | Coast Lines: A Fractal Conundrum                          | R106   |
| Wang                          | David       | 11    |      | Data Anonymization  | R108   |
| Zeng                          | Ethan       | 11    |      | Optics  | R109   |
| <b>The Wheatley School</b>    |             |       |      |   |        |
| Ajmena                        | Rahul       | 8     |      | Projectile Motion   | BA16   |
| Belle                         | Alyssa      | 8     |      | The Influence of Math of Magic Squares: Past to Present   | BA18   |
| Jain                          | Sahil       | 8     |      | Fractals  | BA20   |
| Lee                           | Kelvin      | 8     |      | Battleship  | BA25   |
| Lee                           | Rachel      | 8     |      | A Brain of a Swimmer                                      | BA26   |
| Li                            | Karen       | 8     |      | Mathematics in Modern and Olden Cryptology                | BA100  |
| Potrapeluk                    | Natalia     | 8     |      | The Math in Soccer  | BA102  |
| Ramos                         | Madison     | 8     |      | Mathematics in Computer Graphics                          | BA103  |
| Shah                          | Diya        | 8     |      | Spidrons  | BA105  |
| Sparacio                      | Rebecca     | 8     |      | The Fibonacci Sequence                                    | BA106  |
| Vincenzo                      | Ashley      | 8     |      | Infinity  | BA111  |
| Wong                          | Trenton     | 8     |      | Alternate Number Bases                                    | BA13   |
| Yagoda                        | Emily       | 8     |      | Arbitrage   | BA14   |
| Yamin                         | Alia        | 8     |      | Math in Nature  | BA15   |
| Zachariah                     | Aaron       | 8     |      | Math in Finance   | BA16   |
| Zhong                         | Sharon      | 8     |      | The 4th Dimension   | BA18   |
| Shukla                        | Manan       | 9     |      | The Ramsey Theorem  | D17    |
| Singh                         | Vedant      | 9     |      | The Nine Ball Problem                                     | D20    |
| Ainechi                       | Sufia       | 10    |      | Mathematics behind the Heart                              | L203   |
| Kumar                         | Abhishek    | 10    |      | DeMoivre's Theorem  | MA20   |
| Vega                          | Justin      | 10    |      | Non-Euclidean Geometry and its Applications               | ME10B  |
| Gilbert                       | Jakob       | 11    |      | Equations for combining exponents                         | R110   |
| Jadonath                      | Arvin       | 11    |      | Chaos Theory  | R111   |
| Lessen                        | Ashley      | 11    |      | Game Theory and Tennis                                    | R112   |
| Lotzky                        | Gil         | 11    |      | Tetris: The infinite Case                                 | R201   |
| Nussbaum                      | Jax         | 11    |      | Finite Differences  | R206   |
| <b>Thompson Middle School</b> |             |       |      |   |        |
| Dalvi                         | Anouska     | 7     |      | The Fourth Dimension                                      | BRW104 |
| Langman                       | Josh        | 7     |      | Magic Squares   | BRW201 |
| Min                           | Jeff        | 7     |      | Pythagorean Theorem                                       | BRW106 |
| Vetranro                      | Nicholas    | 7     |      | Fibonacci   | BRW202 |
| Dhulia                        | Ronit       | 8     |      | Exploring the patterns within Pascal's Triangle and their | BA25   |
| Wang                          | Kai         | 8     |      | Mental Math   | BA20   |

| <b>Last Name</b>              | <b>First Name</b> | <b>Grade</b> | <b>Team</b> | <b>Topic</b>                       | <b>Room</b> |
|-------------------------------|-------------------|--------------|-------------|------------------------------------|-------------|
| <b>Woodland Middle School</b> |                   |              |             |                                    |             |
| Chinnadurai                   | Nishanth          | 7            |             | Hexaflexagons                      | BRW203      |
| Levy                          | Elizabeth         | 7            |             | Optical Illusions                  | BRW204      |
| Fong                          | Alyssa            | 8            |             | Math in Music: Through the Decades | BA26        |
| Froehlich                     | Vanessa           | 8            |             | Solids of Revolution               | BA100       |
| Pandey                        | Ikshu             | 8            |             | Pascal's Triangle                  | BA102       |
| Pienkowski                    | Mateusz           | 8            |             | The History of Algebra             | BA103       |
| Johnson                       | Ashish            | 8            | Team A      | Math and Architecture              | SC143       |
| Mun                           | Lucas             | 8            | Team A      | Math and Architecture              | SC143       |
| <b>Woodmere Middle School</b> |                   |              |             |                                    |             |
| Cheng                         | Kelvin            | 7            |             | The Pythagorean Theorem            | BRW101      |
| Rasheed                       | Asma              | 8            |             | Optical Illusions                  | BA105       |
| Tang                          | Alex              | 8            |             | Music and Math                     | BA106       |
| Vilensky                      | David             | 8            |             | Math 8 Economics                   | BA111       |
| Kumar                         | Mithuna           | 9            |             | Components for a Mars Mission      | D101        |