

## Exeter Math Club Competition 2017



# Information for Students

## Schedule

Start	End	Event	Location
9:00	10:00	Registration Teams will be introduced to their proctors at registration. If teams arrive late for registration, they should go directly to the opening ceremony in Assembly Hall.	Powell Hall (Music Center)
		Light Breakfast	Powell Hall (Music Center)
10:00	10:30	Opening Ceremony Proctors will lead teams after the opening ceremony directly to their classrooms for the individual rounds	Assembly Hall (Academy Building)
10:30	1:00	Team and Individual Rounds	Classrooms (Academy Building)
1:00	1:30	Lunch Pizza will be available for free for students and coaches in the classrooms in which the students took the contest. Parents and other adults must bring their own lunch or buy lunch in town.	Classrooms (Academy Building)
1:45	3:15	Guts Round	Assembly Hall
3:15	3:30	Break	Assembly Hall
3:30	4:00	Awards	Assembly Hall

## Locations

The Academy Building, the main hub for the competition, is the main building on campus overlooking the lawn next to Front Street. Registration will take place in the foyer of the Academy Building, located on the main floor with the marble steps. Breakfast will be available in the foyer as well. The opening and closing ceremonies, along with the Guts Round, will take place in the Assembly Hall, located on the 2<sup>nd</sup> floor of the Academy Building. The individual and team rounds will take place in classrooms in the Academy Building. Lunch will also be available for contestants and coaches in the classrooms.

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### Round Formats

Round	Number of Problems	Time	Points per Problem
Individual Speed Round	20 problems	25 minutes	3 points each
This round stresses the ability to solve problems quickly. 60 points are possible per individual, totaling 240 points per team.			
Individual Accuracy Round	10 problems	45 minutes	9 points each
This round stresses problem solving skills. 90 points are possible per individual, totaling 360 points per team.			
Team Round	15 problems	45 minutes	20 points each
During this round, each team works together on more difficult problems. 300 points are possible per team.			
Guts Round	24 problems	75 minutes	5-22 points each
Problems are given in ten sets of three. Teams work together on one set at a time with no time restriction on the amount of time they can spend on each set. When the team turns in a set, they receive the next one immediately: grading is done in real time and displayed on a scoreboard in front of the room. Teams have 75 minutes to complete as many problems as they wish (they can spend less time on each problem to cover more, or more time on each to ensure better accuracy). Problems are weighted by set as follows (5, 7, 9, 11, 13, 15, 18, 22). There are 300 points available per team.			

### Grading

Answers must be simplified and exact unless otherwise specified. For example,  $22/7$  and  $3.14$  are not acceptable substitutes for  $\pi$ . Rational numbers should be given in lowest terms. Radicals must be simplified if possible, so that the radicand contains no fractions and is not divisible by the square of any prime. Denominators should be rationalized, and correct mathematical notation must be used. There is no partial credit for problems. Ordered pairs must be written as  $(a,b)$  with parentheses. **No calculators are allowed on any round.**

### Protests

Protests regarding individual rounds or team round problems should be lodged during lunch in the Academy Building foyer at the tournament desk.

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### Awards

Each student will receive a certificate for participation. In addition, the top-scoring member in each team who does not place individually will receive a high honors certificate.

Top 10 individuals and top 10 teams in team round, guts round, and sweepstakes (total score) will receive a plaque as award.

### Tie-Breaking

In the case of a tie in any round, the tie will be broken as follows:

Within a single round: The student or team who solved the last problem will be ranked higher. If a tie persists, the second last problem will be used, then the third last problem, and so on. A tie will not be broken in the case where two students or teams solved the exact same set of problems.

Individual total: The student who ranked higher in accuracy round will be ranked higher. If a tie persists, the student who ranked higher in speed round will be ranked higher.

Team sweepstakes: The team who has a higher total score of team and guts round will be ranked higher. If a tie persists, the team who ranked higher in guts round will be ranked higher. If a tie still persists, the team who ranked higher in team round will be ranked higher.

No individual or team will be tie-broken out of top 10. For example, in the case of a three-way tie for the 9<sup>th</sup> place individual, after tie-breaking there will be one person receiving 9<sup>th</sup> place and two receiving 10<sup>th</sup> place.

### Thanks

We would like to extend special thanks to Jane Street Capital for their generous sponsorship.

Also, we would like to thank the Exeter math faculty for their gracious assistance in problem writing, and especially Mr. Feng for his dedication as our teacher and coach.

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