

Team Math Quest

LEVEL:	Senior High School (Grade 12)
TYPE OF EVENT:	Team by Math Category
COMPOSITION OF TEAM:	2-3 Students per team
NUMBER OF TEAMS:	Preliminary – Determined by your MESA Center Regional – 3 teams per category per MESA Center
SPONSOR:	Marvin J. Maldonado, UC Irvine MSP

OVERVIEW: Students work as a team to solve a set of challenging, non-routine problems the require core mathematical knowledge, creative deductive abilities, and collaborative reasoning skills. The event is designed to introduce, develop, and foster the use of various strategies to solve exciting and complex mathematical problems.

LEVEL:

THE FOLLOWING LEVELS ARE COVERED ON THE EXAM: Alg 1, Geometry, Alg 2, Trigonometry, Pre-Calc/Math Analysis, Calculus
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MATERIALS:

The Host Center provides the following:

- 1 Set of math problems per team
- 1 Scantron per team
- Pencils

The team provides the following:

- Calculators (Acceptable calculators are described in Rule #3.)

RULES:

- 1) A team is composed of **2-3** students from the same school site. All members must be in grade 12 to participate in this competition.
- 2) Teams are given **50 minutes** to solve as many problems as possible from a **set of 30**. All problems will be multiple-choice format and do not need to be solved in numerical order.
- 3) Only non-QWERTY calculators are permissible and must be supplied by the team. Calculators that have typewriter-like keyboards, require an electrical outlet, make noises, or use paper are not permitted. Additionally, devices with embedded calculator functions such as cell phones, iPod/iPad, laptops or tablet computers are strictly prohibited.
- 4) Books, mathematical tables, or other resource materials cannot be used during the test.

- 5) The *Team Scantron* must be legible and thoroughly completed as instructed by the proctor.
- 6) Scratch paper is not allowed. Each problem is printed on a separate sheet of paper. Team members may use both sides of this sheet to solve the problem. ***Any work done on this sheet will not be used for scoring purposes***
- 7) Only answers properly marked on the Team Scantron will be scored.

EVENT PROCEDURE:

- 1) Before beginning the timed event, a proctor will briefly review the event guidelines with all student participants, verify that only non-QWERTY calculators are present, and distribute pencils.
- 2) Each team will be given a Scantron. Per Rule #5, each team is responsible for legibly and thoroughly completing the *Team Scantron* per proctor instructions.
- 3) Each team will be given the appropriate set of 30 problems in a manila file folder or large clasp envelope. Per Rule #6, scratch paper will not be provided.
- 4) Once a problem is solved, the team must record the answer in the corresponding space on the Team Scantron and continue with problem solving until the end of time is called.
- 5) The proctor will announce when 5 minutes and 1 minute remain.

SCORING:

- 1) Each correct answer is worth **4 points**. Each incorrect answer is penalized **1 point**. Non-responses, or blanks, will be scored as incorrect answers. The final team score is calculated as follows:

$$\text{Team Score} = (\# \text{ of correct answers} \times 4) - (\# \text{ incorrect answers})$$

- 2) In the event of a tie, a tie breaking procedure will be implemented to determine placing.
- 3) Awards will not be given to teams with zero or negative scores.

AWARDS:

- *Preliminary event*: First, second, and third place will be awarded.
- *Regional event*: Same as preliminary, but there are two different categories: **Delegates** and **At-Large**. Delegates are the winning prelim teams from each center. At-Large teams are all other 12th grade students advancing to Regionals in other competitions. First, second, and third place will be awarded in each category. At-Large students that don't have their original teammates from Prelims will be teamed up with students from their same school site, and then their same center if necessary. This will be at the discretion of each center director.