

Hosting a Math Tournament

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65th Annual Georgia Math Conference
October 17, 2024



Outline

Background

Purpose

Competition Format

Prep Before the Tournament

Day of the Tournament



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My Background with Math Tournaments

- ▶ Annual Rockdale Math Competition (est. 2004)
- ▶ GCTM's VP for Competitions (2009 - 2019)
 - ▶ State Math Tournament
 - ▶ GCTM Middle School Math Tournament
- ▶ GAAPMT Calculus Competition (est. 2023)
- ▶ ARML (UGA site Scoring Chair, 2008 - 2019)
- ▶ Mu Alpha Theta National Convention (Test writer, 2015 - 2026)
- ▶ AMC/AIME (Writer and Proofreader, 2012 - 2016)



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Why Host a Math Tournament?

Some Reasons:

- ▶ Give your students an experience
- ▶ Make money for your Math Team
- ▶ Give other students an experience
- ▶ Contribute to the mathematical community

Important to choose your focus!



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AP Stats? Enhanced Advanced Algebra/AP Precal?
 - ▶ Varsity: 11th and 12th; JV 10th and younger



Format

- ▶ Multiple-choice & ciphering
- ▶ Multiple-choice & ciphering & team (State)
- ▶ Multiple-choice & ciphering & power
- ▶ Multiple-choice & pair ciphering
- ▶ Multiple-choice & ciphering & pair ciphering & power (GCTM middle school)
- ▶ Multiple-choice & team (GAAPMT Calculus)



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- ▶ ARML-style (Rockdale)
 - ▶ Power, Team, Relay, Individual Rounds
 - ▶ No multiple-choice test



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 - ▶ "The probability can be written as the fraction a/b where a and b are relatively prime positive integers. Compute $a + b$."
 - ▶ "The area of the shaded region can be expressed as $a - b\sqrt{c}$, where a , b , and c are positive integers and c is not divisible by the square of any prime. Compute $a + b + c$."
 - ▶ "The centroid of the triangle can be written as the ordered pair (a, b) . Compute $72(a + b)$."



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 - ▶ "The centroid of the triangle can be written as the ordered pair (a, b) . Compute $72(a + b)$."
- ▶ Mathematical notation
 - ▶ Factorials
 - ▶ Floor function
 - ▶ Complex numbers



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- ▶ Method of calculating scores
 - ▶ $5C + B$
 - ▶ $4C + B - I$
 - ▶ simply number correct
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Rules

- ▶ Method of calculating scores
 - ▶ $5C + B$
 - ▶ $4C + B - I$
 - ▶ simply number correct
- ▶ Calculators or not?
- ▶ Method of breaking ties
 - ▶ Designate certain multiple-choice questions as tie-breakers
 - ▶ Add tie-breaker questions to the test
 - ▶ Go backwards through the test questions
 - ▶ "Sudden-death" tie-breaker
 - ▶ Team score tie-breakers too!



Volunteers

- ▶ Teachers, your students, alumni, parents, other sponsors
 - ▶ You need proctors, scorers, registrars, runners, etc.



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- ▶ Teachers, your students, alumni, parents, other sponsors
 - ▶ You need proctors, scorers, registrars, runners, etc.
- ▶ Writers, proofreaders
 - ▶ Have everything written at least one month prior (two months if possible)
 - ▶ Proofread everything three times or more



Awards

- Trophies, plaques, medals, prizes?



Awards

- ▶ Trophies, plaques, medals, prizes?
- ▶ Certificates? Please, no.



Food

- ▶ Food for participants: snacks, lunch, both?
- ▶ Food (and a room) for sponsors



Registration

- ▶ Fee: per team, per student, ...?
- ▶ Where to deposit?
- ▶ Late registration cut off
- ▶ Google form? E-mailed and scanned?
- ▶ Invoice, W-9, vendor set-up
- ▶ Participant names?
- ▶ Folders with all info



Money and Promotion

- ▶ Costs — Awards, food, copies, other materials
 - ▶ PTA, PTO
 - ▶ Gifted/Talented Dept.
 - ▶ Math Curriculum Dept.
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- ▶ Promotion – Start ASAP (months prior!)
 - ▶ GCTM website
 - ▶ Other organizers' email lists
 - ▶ Math curriculum specialists (Local, RESA)
 - ▶ Any math teacher you know!



Date and Facility

- ▶ Choosing a good date for your school is primary; avoiding conflicts with other math tournaments is secondary
- ▶ Let all other teachers know what rooms you are using
- ▶ Get volunteers
- ▶ Order awards, proofread, make copies, etc.



Tournament Schedule

- ▶ Build extra time!
 - ▶ 60-minute multiple-choice test will take 75 minutes
 - ▶ 20-minute individual ciphering will take 35-40 minutes
 - ▶ Teams will arrive late
 - ▶ Teams will arrive late from lunch
- ▶ Time and place to handle disputes
- ▶ Time for tie-breakers



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Organizer “puts out fires”—does not score, proctor, etc.

- ▶ Early arrivals
- ▶ Volunteer jobs (food, runners, etc.)
- ▶ Overflow and underflow
- ▶ Extra participants?
- ▶ Results packet!
- ▶ Proctors:
 - ▶ Need to know who to expect
 - ▶ Need instructions & timings
 - ▶ Need answers to common questions (Penalty for guessing? Will answers be posted or announced? Where are disputes?)
- ▶ Leftover trophies



Thanks!

Session Evaluation Form (Session #81):



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