MESA DAY CONTEST RULES 2025-2026
(DRAFT)

Math Escape Challenge

LEVEL: Middle School (MS) & High School (HS)

DIVISION(S): Grades 6-8 (combined) and Grades 9-12 (combined)

COMPOSITION OF TEAM: 2-3 students per team

NUMBER OF TEAMS: Preliminary – Determined by your local MESA center
Regional - # of teams per division at the discretion of each region (Northern, Central, LA/Central Coast, and Southern)

SPONSOR: University of the Pacific MESA College Prep
Cal State LA MESA College Prep

OVERVIEW: Students will collaborate in teams of two to three to solve challenging math problems utilizing their knowledge of their grade level math. Math problems focus more on students' ability to **problem solve using critical thinking instead of just pure computation**. In addition to the math problems, students will also navigate through an online escape room with the goal of "escaping" the quickest. **Participation logistics and limits may vary by host site. Advisors and students are responsible for verifying this information with their local MESA center.** This competition will be in-person for 2025-2026 but can also be hosted virtually, dependent upon the host center. These rules are written for in-person events; however, they can be adjusted for virtual events.

RESOURCES: Competition Logistics Overview
Competition Quick-Guide

MATERIALS: The Host Center will provide the following:

- A series of questions will be given to each team via the Brain Chase platform
- Host center will provide:
  - Computer lab or space and internet access for teams to bring their own computers
  - Scratch paper
  - Pencils
- If virtual: a Zoom meeting invitation

There are no restrictions on tools (e.g., calculators, scratch paper, etc.). Teams must bring their own calculators. Teams can **not** use their phones for calculators.

Scratch Paper:

- For **preliminary events**, centers may require students to submit their scratch paper at the end of the competition - check with your MESA center if this is a requirement.
- For **regional events**, scratch paper **will** be collected immediately at the end of the competition - students who do not submit scratch paper cannot place.
- Each student on the team must turn in their scratch paper. Scratch paper should show that students worked to solve the questions. Blank scratch paper or scratch paper with irrelevant items on it will not be accepted.
- The student's name, grade level, school, and MESA center should be written on their paper.
- If hosting virtually, host center will provide a method for teams to submit scratch paper.

GENERAL RULES:

1) Teams must consist of 2 to 3 students.
2) There is no restriction on the composition of a team; teams may consist of students from any grade or math level. It is suggested that teams consider the math levels of their teammates; they should have a good balance of math knowledge within their team. For example, a team can consist of one 6th grader, one 7th grader and one 8th grader.
3) Teams will be provided with their team number and log-in - this is how judges will know which timestamps are associated with the team.
4) Each team will share one computer and work together with their teammates to complete the challenge.
5) Host center will determine if teams need to bring their own computer or if a computer lab will be provided.
    a) If students are using a school issued Chromebook, they must check ahead of time if their device can access the BrainChase platform.
6) Teams will be allowed 1 ½ hours (90 minutes) to solve the math problems **and** complete the escape room portion.
7) There will be three math questions for teams to solve. These questions will cover several math concepts for the grade levels and students will need to use problem solving and critical thinking skills to figure out how to solve the problems. There will also be computation style problems.
8) Using an AI program such as ChatGPT is strictly prohibited, including to confirm whether the solutions are correct or incorrect. Questions will be specifically formulated to return incorrect answers in AI programs.

ONLY IF VIRTUAL:

1) All team members must login to the Zoom meeting 15 to 20 minutes prior to the competition start time so that proctors can put them in their break-out rooms and a quick overview of the competition can be given.
2) Each team member's name, school name, (and MESA Center for Regionals only) must be listed as the login name for Zoom to be placed in the appropriate break-out room.
    a) There are only 15 characters available for your Zoom name
        i) For Preliminaries, names should look like: School Name_Team Member Name
        ii) For Regionals, names should look like: MESA Center_Team Member Name

TECHNICAL:

1) Teams will designate a "Team Leader" who will access the Brain Chase platform at the start of the competition. The **designated team leader** will need to:
    a) Log in to the Brain Chase platform on behalf of the team - **only** the team leader must log in.
    b) Input the answers into the Brain Chase platform.
    c) ***ONLY IF VIRTUAL:*** In Zoom, share screen with their teammates during the competition once put in their breakout room, and share for the duration of the competition until they complete the challenge
2) Math problems will not focus solely on computation. Teams will need to heavily rely on problem solving and critical thinking skills to get through the math problems **and** the Escape Room (e.g., one math problem can utilize more than one math concept and students will use critical thinking to determine which concepts to use).

JUDGING:

1) The lead contest judge will assemble all participants and review the event guidelines and judging criteria, prior to the start of the competition.
2) Teams need to click on each " Challenge Icon" to solve a math problem.
3) To successfully complete the competition, teams must complete all math problems **AND** break out of the virtual Escape Room.
4) All answers to the math questions are time stamped as well as the time they escaped the room. **In the event of a tie** (i.e., multiple teams completing the Escape Room portion at the same time), judges will rank teams based on who completed the most questions the quickest.
5) Note again, the Host Center may require scratch paper that "shows your work" to be submitted at the end of the competition. Check with your local MESA center to see if this is a requirement. Regional events **will** require the submission of scratch paper.
6) The results from the day of the challenge are **FINAL**.

SCORING:

1) Winning teams will be determined by the following in this order:
    a. Teams that complete all the math problems FIRST, then the Escape Room portion of the challenge in the quickest time.
    b. **If no teams complete the Escape Room**, winners will be determined by the highest number of problems completed in the least amount of time. Note that every problem is time-stamped in the Brain Chase Platform to help determine the winning teams.

AWARDS:

- Medals will be awarded for 1st, 2nd, and 3rd place.
- Please check with your MESA center to determine the number of teams that advance to Regional MESA Day.

ATTACHMENTS:

- Overview of the Brain Chase Platform
- Math Concepts Resource
- Teachers and Directors

Overview of the Brain Chase Platform

An overview will also be presented at the start of the Math Escape Room competition, but students are encouraged to familiarize themselves with the platform beforehand. The quick-guide is a more simplified resource that will be presented on the day of the competition and can be used as reference. Please see links below:

- Competition Logistics Overview: https://tinyurl.com/MDMath22
- Competition Quick-Guide: https://tinyurl.com/QuickGuide25

For MESA Center Directors and teachers hosting a competition at their school only (please e-mail Rose directly for access - rcureton@pacific.edu): https://tinyurl.com/mathescape22judgeguide

Math Concepts Resource

The following math concepts may be used in any variation in the challenges, but the challenges are not limited to these concepts:

- Geometric shapes
- Two- and three-dimensional figures
- Surface area and circumference
- Probability
- Rational and irrational numbers
- Equations and inequalities
- Fractions and percentages

The resource folder can be found below:

- https://tinyurl.com/mesamathescape23
  Resources include sample problems from previous years' escape rooms as well as a Quick Guideline presentation with key elements about the escape room.

Teachers and Directors:

The best way for students to prepare themselves for this competition is to practice the escape rooms in the BrainChase platform. Not understanding how the virtual escape room works tends to be the largest barrier for students, so it is important for them to play on the platform prior to doing the competition.

MESA has several BrainChase curriculum rooms focused on teaching general curriculum surrounding our competitions: Moon Base, MESA Machine, Cargo Gliders, and Math Escape. Please ask your center director for access to these rooms.

Below is a list of demo rooms that were previous Math Escape Challenge rooms. These rooms give students practice in what the competition room will actually look like. **The math will be pre-solved, but the most important part of these rooms is for students to get experience on how to work through and**

escape a virtual escape room. On competition day, students tend to struggle with the mechanics of and working on the escape room.

Program	Game	Username	Password
Mesa HS Practice Room	Beethoven	prax68_hsbeet	prax68
Mesa HS Preliminary Room	Smithsonian	prax199_hssmith	prax199
Mesa MS Preliminary Room 2023	Chess	299_23MSPre	299
Mesa MS Regional Room 2023	Blackbeard	399_23MSReg	399
Mesa HS Preliminary Room 2023	Chess	499_23HSPre	499
Mesa HS Regional Room 2023	Blackbeard	599_23HSReg	599
Mesa MS Practice Room	Beethoven	prax49_msbeet	prax49
Mesa MS Preliminary Room	Smithsonian	prax148_mssmith	prax148
Mesa MS Regional Room	Shackleton	bcsmithsonian38	bc917
Mesa Nefertari Practice	Nefertari	bcshackleton35	bc858