



## TechFest 2019 Competitive Event

**Competition Title:** Mathematical Madness

**Competition Sponsor:** Raytheon

**Competition Summary:** Each student team will solve mathematics based problems ranging from algebra to introductory calculus. This event has an overarching strategy based on which problems are solved and in what order they are solved to maximize the number of points possible to win the competition.

**Competition Details:** The problems will be presented in a tree structure that must be solved in such a manner that at least one problem from each level (increasing in difficulty) must be solved before moving on to the next more difficult level. Once one problem is solved from each level the team may then go back and solve any other problems in effort to maximize their possible score. Each problem will be given the following information: 1.) Estimated time to complete, 2.) Level of Difficulty, 3.) Area of Mathematics that the problem has originated from, and 4.) Number of points for correct answer.

Given the information about the problems and problem tree, a team strategist will need to evaluate the problems and come up with a plan to maximize the number of points that the team can solve in the time allotted. Any assets (including laptops, cell phones, and the internet) may be used in effort to maximize score and answer the problems. This evaluation will be worth 10% of the total score (judged on how in-depth the team strategist planned the solving strategy of the team, a worksheet will be provided).

**Start Time:** (TBD)

**Single round**

**Individual Team Size:** 1 to 4 students

**Pre-defined Team Roles:** Strategist (1), Problem Solvers (0-3), as determined by the team's Coach

**Maximum Number of Teams:** (TBD)

**School Points Awarded for Gold, Silver, and Bronze:** 5,000, 3,000, 1,000 points, respectively

**Scoring Rubric:** Each team will be evaluated on: 1. Number of points scored for each correct problem solved (90%), 2.) Strategy / Planning to Maximize Score (10%)

**Event Hardware Required:** None required, but teams may use any computing hardware they would like, including laptops.

**Event Software Required:** None required, but teams may use any software they would like.

**Utilities/Internet Required:** None, but internet usage is allowed if available.

**Materials/Supplies Required:** None Required, teams may use any resources they deem necessary

**Information to be provided to competing teams:** Basic instructions.

**Pre-Work Required:** None.

**Pre-Work Possible (not required):** Strategy Planning, Planning of what assets to bring to solve problems (i.e. laptops, internet hotspot).