

π athlon 2017

Overview

- 1) Teams will be comprised of 1-4 members. (No fractional members, please.)
- 2) Each team will attempt to complete as close to π events as possible, where a single event is equal to 100 points. These points can be earned through multiple contests.
- 3) Any event score can count as positive OR negative OR can be ignored. For example, your team has 320 points. If you complete 6 basic math problems you can subtract 6 from 320 giving you 314 or you can ignore those points.
- 4) The team to score closest to 100π points, or π events will be the winner. *Keep in mind that this is 100π and **not** 314. Don't forget the decimals places.

Events

TV

- 1) 100 points for watching a complete video clip.
- 2) The video is chosen by the team and must be science/tech related and at least 10 seconds and no more than 6 minutes long. The time unit for measuring partial viewings will be integer seconds.
- 3) Any partial viewing will earn points determined by the percent of the episode watched. (Teams can take percent values or decimal values. So, 50% can be either 50 or 0.5.)

Sudoku

- 1) 100 points for a full (error-free) puzzle.
- 2) If the puzzle is not complete (or there are mistakes), points will be earned based on the percentage of the puzzle completed.
- 3) The percent complete will be determined by dividing the total number of empty boxes at the start of the puzzle by the number correctly filled in. (Teams can take percent values or decimal values. So, 50% can be either 50 or 0.5.)

Puzzles (Physical)

- 1) 100 points awarded for a completed puzzle.
- 2) For incomplete puzzles, points will be awarded based on the percentage of puzzle pieces used. (Teams can take percent values or decimal values. So, 50% can be either 50 or 0.5.)

Freeflow

- 1) 50 points award for a complete board.
- 2) Complete a board in n seconds, get $0.1 * n$ points. (E.G. If you complete a board in 21.3 seconds, you get 0.213 points. If you complete a board in 2.3 seconds, you get 0.23 points.)
- 3) Teams must 2π minutes between boards.

Cryptograms and Symbol Addition

- 1) 100 points for a full (error-free) solution.
- 2) If the cryptarithm/symbol addition is not complete (or there are mistakes), points will be earned based on the percentage of the puzzle completed.
- 3) The percent complete will be determined by dividing the total number of unknowns at the start by the number correctly solved. Teams can take percent values or decimal values. (E.G. 50% can be either 50 or 0.5.)
- 4) For the Intermediate Cryptarithms teams can multiply either the percent or decimal value by 0.1. (E.G. 50% could be 50, 5, 0.5, or 0.05.)

Pi Recitation

- 1) 1 point will be awarded for each digit of pi recited.
- 2) A special prize will be given to any team capable of reciting 314 digits of pi.
- 3) Teams may choose to take as many of their earned points as they wish. Example: Reciting 200 digits means you can take any integer value between (and including) 1 and 200 and use it as your score.

Minesweeper

- 1) The grid will be 16 by 16.
- 2) Teams will set the number of bombs to be diffused; no fewer than 20 bombs may be selected.
- 2) 100 points will be awarded for diffusing all bombs.
- 3) For incomplete games, points equal to the percent of bombs diffused will be awarded. (Teams can take percent values or decimal values. So, 50% can be either 50 or 0.5.)
- 4) At least 10% of the squares need to be mines.

Random Math Problems

- 1) Teams will roll a d4, and then randomly be assigned a problem.
- 2) If the team solves the problem correctly, they may add/subtract 1 to any place-holder from 10^3 to 10^{-d} , where d was the roll of the die. (E.G. a team solves a d=3 problem, they must add/subtract a single digit to the 100s place, 10s place, 1s place, 0.1s place, 0.01s place, or the 0.001s place.)
- 3) Once a team has attempted their question, they cannot try again for 2π minutes.

Basic Math Problems

1 point will be awarded for each correct answer.