

Pi Quiz Regional Round 2025 – Report

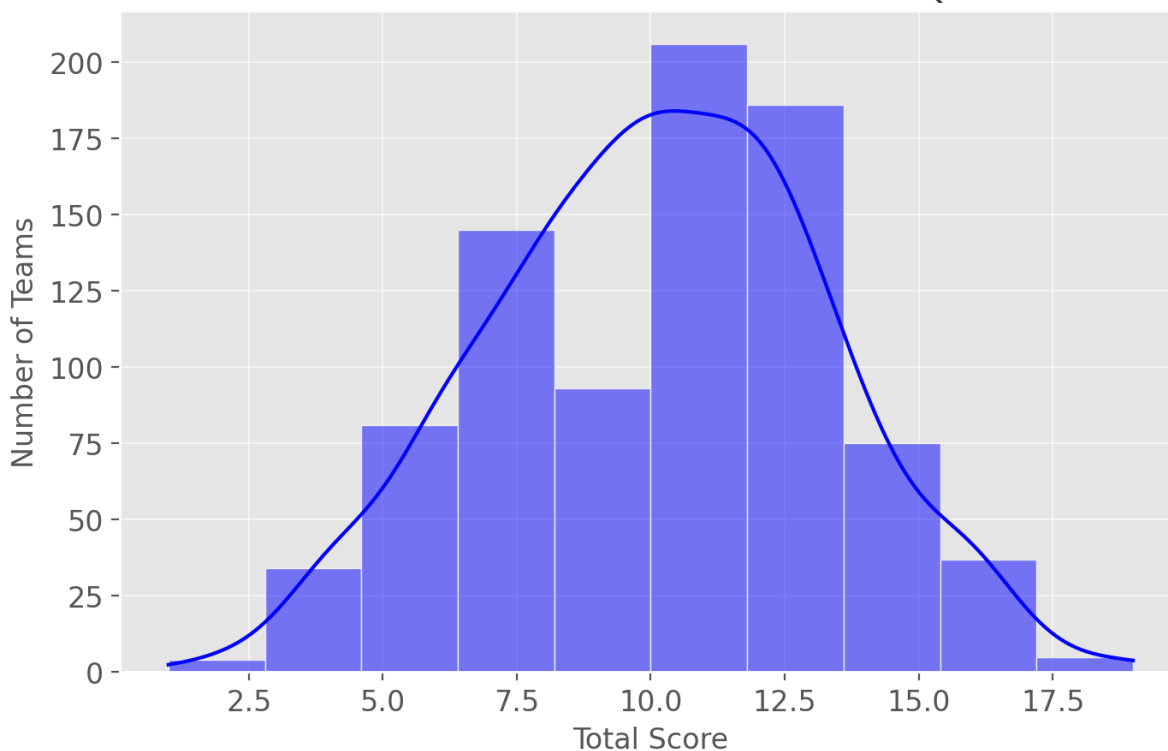
1. Introduction The IMTA Pi Quiz is a nationwide mathematics competition designed to challenge students' problem-solving abilities across multiple rounds. This report provides a statistical analysis of the 2025 Pi Quiz results, highlighting overall performance, areas of strength, and rounds where students struggled.

2. Data Overview A total of 866 teams participated in the competition. Each team answered questions across 8 rounds, with a maximum possible score of 20 points.

3. Summary of Performance

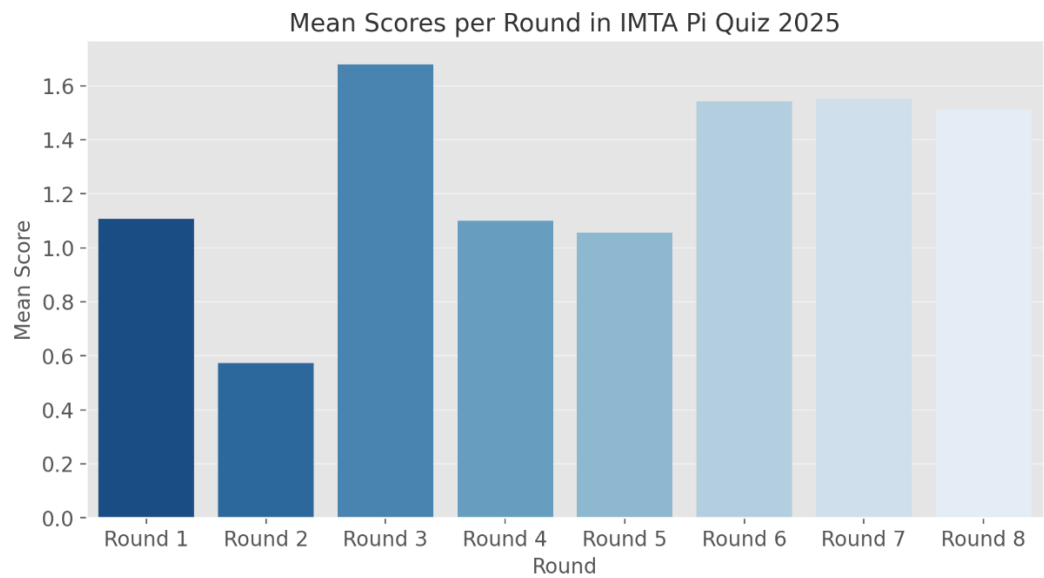
- The mean total score across all teams was **10.12** out of 20.
- The standard deviation was **3.15**, indicating moderate variability in performance.
- The highest recorded total score was **20**, while the lowest was **1**.
- The median total score was **10**, with 50% of teams scoring between 8 and 12 points.

Distribution of Total Scores in the IMTA Pi Quiz 2025



4. Performance by Round

Round	Mean Score	Standard Deviation
Round 1	1.11	0.50
Round 2	0.57	0.61
Round 3	1.68	0.52
Round 4	1.10	0.77
Round 5	1.06	0.67
Round 6	1.54	0.60
Round 7	1.55	0.97
Round 8	1.51	0.84



5. Key Insights

- Rounds with Highest Scores:** Round 3 had the highest mean score (1.68), suggesting that students performed best in this round.
- Rounds with Lowest Scores:** Round 2 had the lowest mean score (0.57), indicating significant difficulty among participants.
- Variability:** Round 7 showed the highest variability (std. dev. = 0.97), meaning teams had a wide range of scores in this round.
- Consistency:** Round 1 had a relatively high mean (1.11) with low variability (std. dev. = 0.50), showing that most teams performed similarly in this round.

Key Insights from Question Analysis vs. Performance Data:

1. Round 2 Had the Lowest Average Score (0.57)

- This round included a **Venn diagram-based probability problem** and an **exponential equation problem**.
- These topics require multi-step logical thinking and algebraic manipulation, which might explain why students struggled.

2. Round 3 Had the Highest Average Score (1.68)

- This round included a **geometric problem on shaded regions** and a **basic algebraic equation problem**.
- These problems seem more straightforward, which may have led to higher scores.

3. Round 7 Showed the Highest Variability in Scores

- Included a mix of **coordinate geometry, arithmetic sequences, algebraic expressions, and income tax calculations**.
- The diversity of question types likely contributed to the wide range of scores.

4. Round 6 (Mean: 1.54) vs. Round 8 (Mean: 1.51)

- Round 6 had a **trigonometry problem** and a **median age problem**, both of which require careful computation.
- Round 8 featured **logical reasoning, quadratic equations, and a geometry problem on circles**, which might have been conceptually difficult.