

MOAA 2018: Statistics

On October 6, 2018, a total of $n = 137$ individual competitors representing $m = 23$ different teams competed at the 2018 Math Open at Andover. Competition statistics are listed below.

1 Individual Statistics

The first edition of the MOAA included a very difficult individual round test, with mostly single digit scores. However, we were pleased to see that many individuals nonetheless achieved stellar scores on our tough inaugural competition.

1.1 Cumulative

- **Mean:** 6.75
- **Median:** 7
- **Standard Deviation:** 3.70
- **Low:** 0
- **High:** 16
- **25th percentile:** 3
- **75th percentile:** 9
- **Top 10 Cutoff:** 12
- **Honorable Mention Cutoff:** 10

1.2 Individual Round: Problem by Problem

We provide problem-by-problem statistics for the individual round here. As expected, problems 1 – 2 were the easiest while problems 17 – 20 were the most difficult, but we observed some variation in between.

Problem #	% Individuals Correctly Solving
1	91
2	95
3	55
4	67
5	47
6	57
7	43
8	53
9	17
10	36
11	39
12	3
13	26

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14	26
15	6
16	9
17	2
18	2
19	0
20	1

2 Team Round Statistics

The formula we used to compute team scores was $(\text{Team Score}) = 10 \cdot \sum (\text{Individual Scores}) + (\text{Team Round Score})$. Here, we include statistics for the team round portion only.

2.1 Cumulative

Similarly to the individual test, the team test proved to be very difficult for our competitors.

- **Mean:** 131.82
- **Median:** 110
- **Standard Deviation:** 115.33
- **Low:** 0
- **High:** 380
- **25th percentile:** 40
- **75th percentile:** 220
- **Top 5 Cutoff:** 260

2.2 Team Round: Problem by Problem

Greater variation was observed in the team test than in the individual test.

Problem #	% Teams Correctly Solving
1	32
2	64
3	27
4	50
5	45
6	0
7	0
8	5
9	36
10	0

3 Gunga Bowl Statistics

We do not have Gunga Bowl statistics at this time.