# MOAA 2021 Statistics

The MOAA Team
December 5th, 2021

A total of 1095 individuals representing 471 teams registered for the 2021 Math Open at Andover on October 16th, 2021. Competition results are listed below.

Speed Round

The Speed Round was a 10-problem, 20-minute test. Each problem was worth 1 point, for a total of 10 points.

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N	766	1st Q	2	Min	0
μ	3.90	Median	4	Top 10	8
σ	1.96	3rd Q	5	Max	9
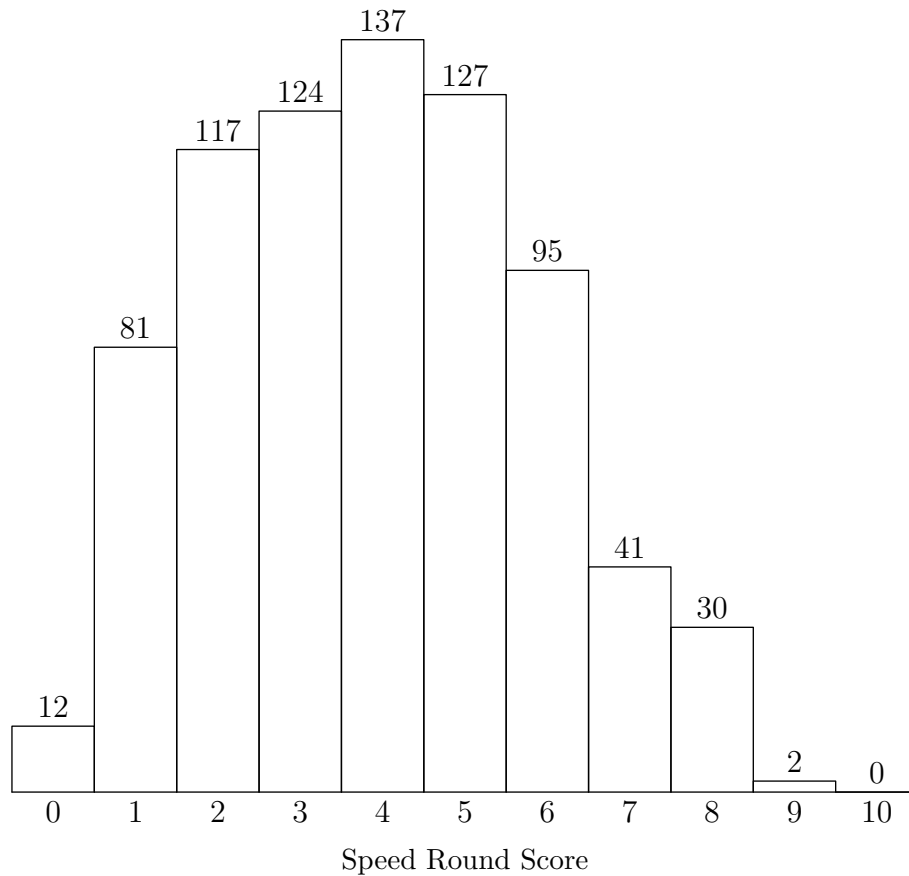
Speed Round Score

Note that N is the total number of submissions, μ is the mean, and σ is the standard deviation. 1st Q and 3rd Q represent the 25th and 75th percentiles, respectively.

Problem	# Solves
S1	711
S2	500
S3	328
S4	376
S5	481
S6	146
S7	361
S8	53
S9	29
S10	0

Accuracy Round

The Accuracy Round was a 10-problem, 45-minute test. Each problem was worth 1 point, for a total of 10 points.

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N	786	1st Q	2	Min	0
μ	3.41	Median	3	Top 10	8
σ	1.89	3rd Q	5	Max	9
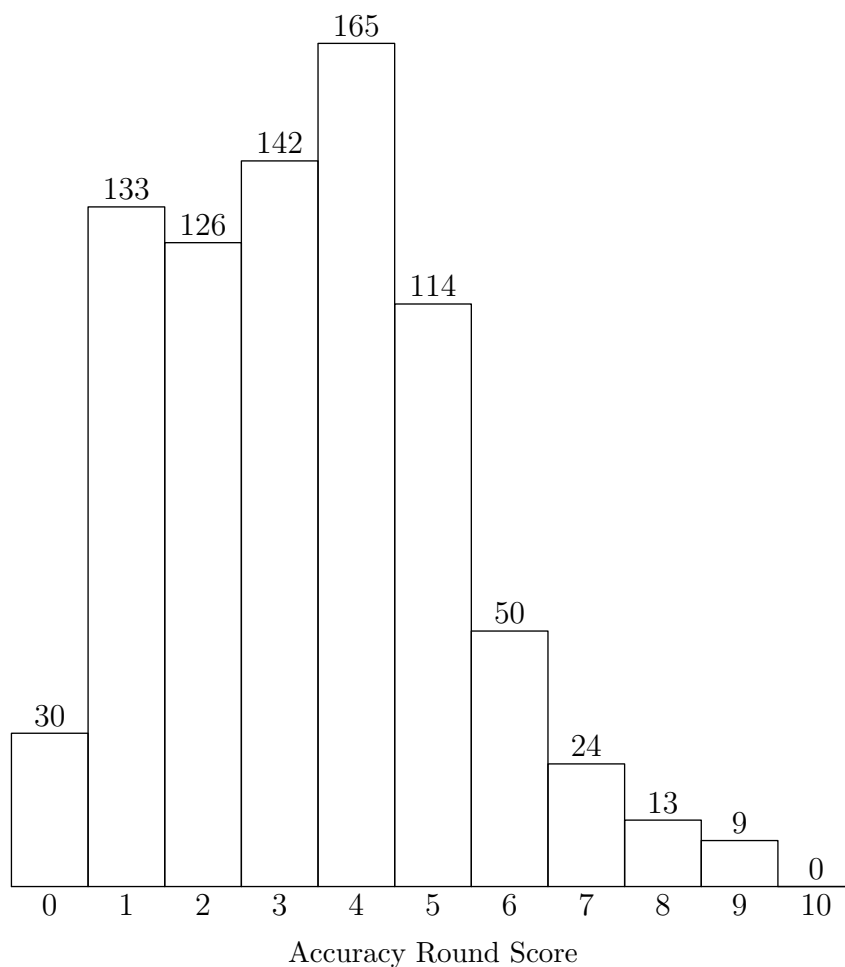
Accuracy Round Score

Note that N is the total number of submissions, μ is the mean, and σ is the standard deviation. 1st Q and 3rd Q represent the 25th and 75th percentiles, respectively.

Problem	# Solves
A1	734
A2	537
A3	276
A4	386
A5	472
A6	57
A7	90
A8	63
A9	56
A10	2

Individual Total

The Individual Total score for each competitor is computed as the sum of 4 times their speed score and 6 times their accuracy score.

|					
N	852	1st Q	20	Min	0
μ	34.23	Median	34	Top 25	72
σ	18.53	3rd Q	48	Max	86
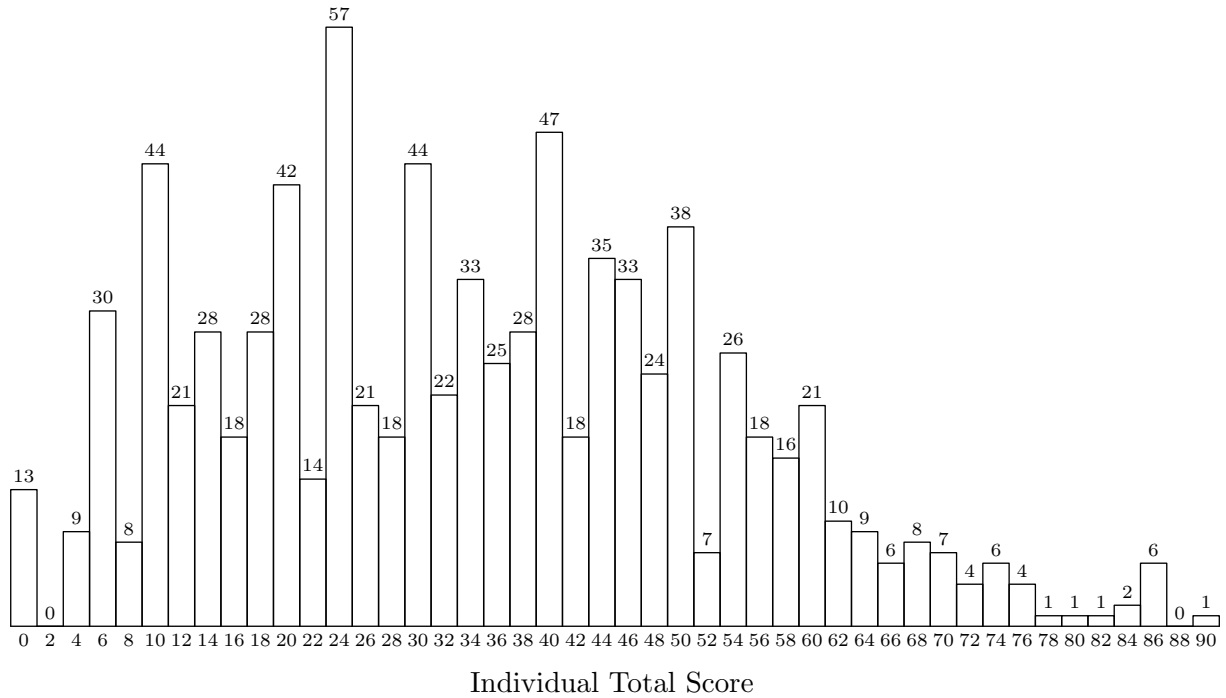
Individual Total Score

Note that N is the total number of submissions, μ is the mean, and σ is the standard deviation. 1st Q and 3rd Q represent the 25th and 75th percentiles, respectively.

Team Round

The Team Round was a 20-problem, 45-minute test. The first four problems were worth 10 points, the next four were worth 13 points, the next four were worth 15 points, the next four were worth 17 points, and the last four were worth 20 points, for a total of 300 points.

N	339	1st Q	43	Min	0
μ	87.14	Median	76	Top 10	210
σ	56.28	3rd Q	125	Max	260
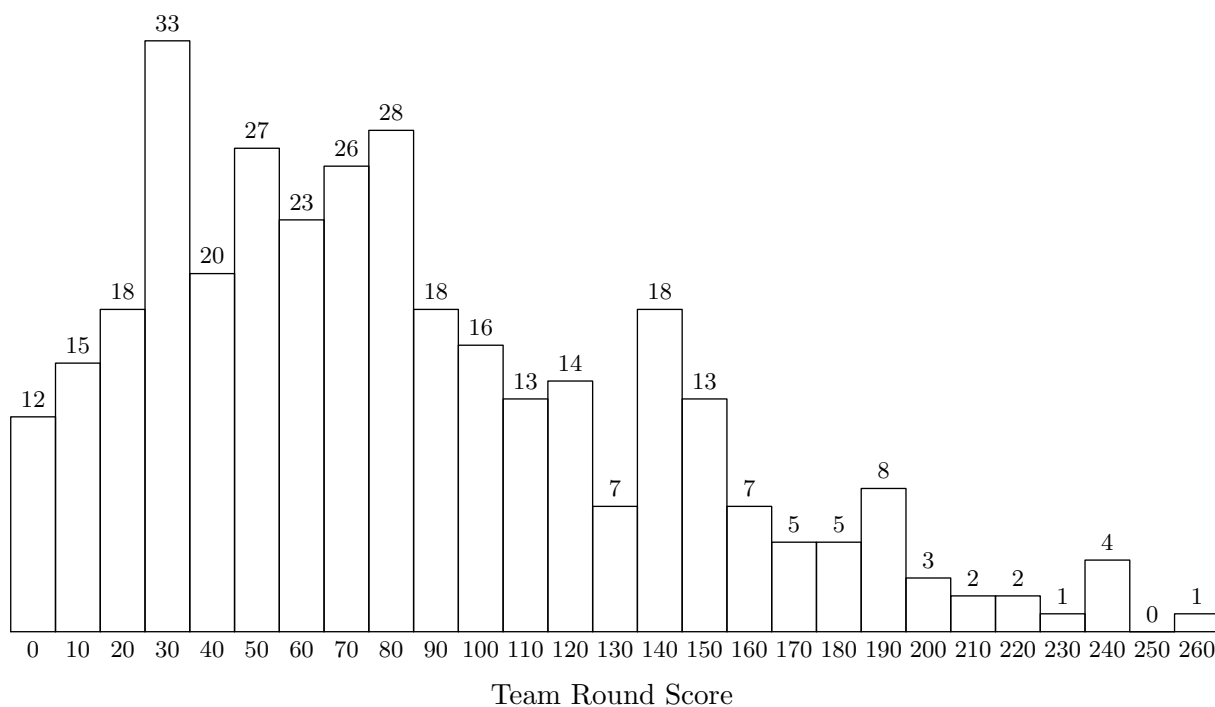
Team Round Score

Note that N is the total number of submissions, μ is the mean, and σ is the standard deviation. 1st Q and 3rd Q represent the 25th and 75th percentiles, respectively. In the histogram above, the height of the column labelled $10x$ is the number of Team Round scores in the interval $[10x, 10x + 10)$.

Problem	# Solves		Problem	# Solves
T1	267		T11	34
T2	295		T12	17
T3	177		T13	145
T4	105		T14	63
T5	294		T15	46
T6	171		T16	26
T7	159		T17	87
T8	181		T18	0
T9	138		T19	4
T10	68		T20	11

Gunga Bowl

The Gunga Bowl was a 36-problem, 90-minute round, split into nine sets of 3 problems. Each of the problems in sets 1 through 9 were worth 11, 13, 15, 17, 19, 21, 23, 26, and 30 points, respectively, for a total of 525 points. Set 9 consisted of three estimation problems.

N	441	1st Q	0	Min	0
μ	64.43	Median	54	Top 10	239
σ	68.31	3rd Q	106	Max	352
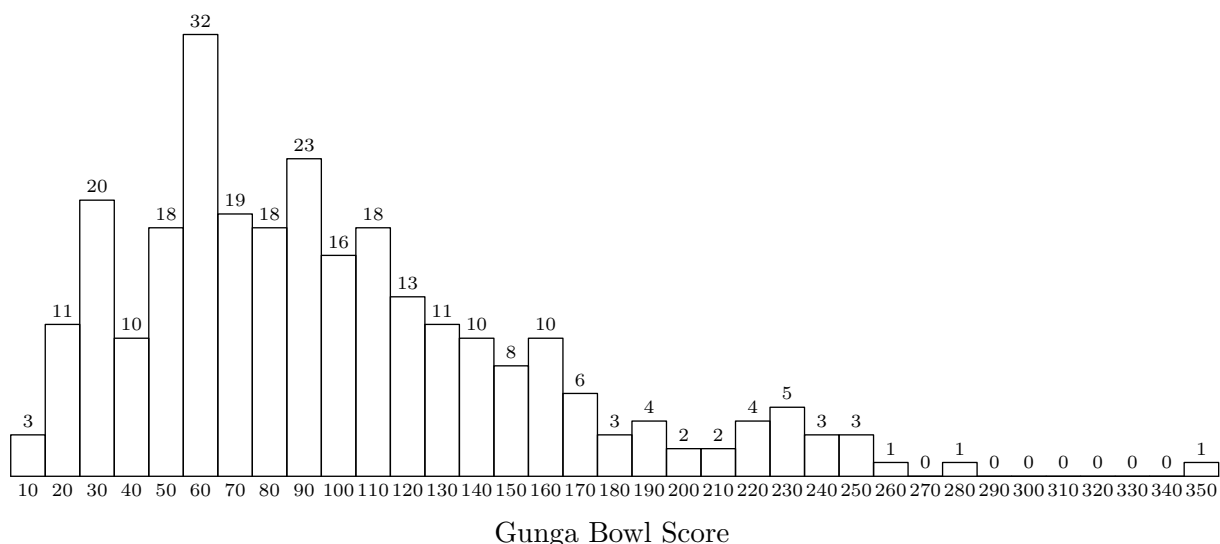
Gunga Bowl Score

Note that N is the total number of submissions, μ is the mean, and σ is the standard deviation. 1st Q and 3rd Q represent the 25th and 75th percentiles, respectively. In the histogram above, the height of the column labelled $10x$ is the number of Gunga Bowl scores in the interval $[10x, 10x + 10)$. Scores of 0 were omitted.

Problem	# Solves
G1	418
G2	159
G3	445
G4	217
G5	132
G6	387
G7	289
G8	176
G9	103

Problem	# Solves
G10	146
G11	76
G12	29
G13	77
G14	65
G15	15
G16	119
G17	12
G18	70

Problem	# Solves
G19	16
G20	13
G21	10
G22	2
G23	0
G24	1
G25	N/A
G26	N/A
G27	N/A

Team Sweepstakes

The Team Sweepstakes score for each team is computed as the sum of their four Individual Total scores, out of 400, their Team Round score, out of 300, and their Gunga Bowl score scaled by $\frac{300}{525}$, also out of 300, for a total of 1000 points.

N	441	1st Q	9	Min	0
μ	161.49	Median	127.14	Top 10	568.28
σ	160.17	3rd Q	263.43	Max	718.42
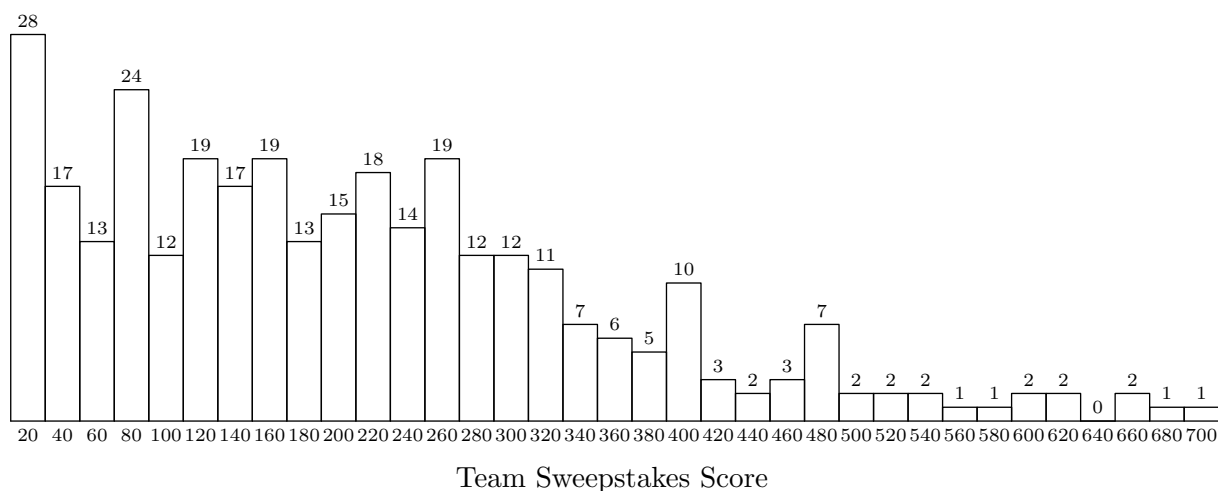
Team Sweepstakes Score

Note that N is the total number of submissions, μ is the mean, and σ is the standard deviation. 1st Q and 3rd Q represent the 25th and 75th percentiles, respectively. In the histogram above, the height of the column labelled $20x$ is the number of Gunga Bowl scores in the interval $[20x, 20x + 20)$. Scores of 0 were omitted.