# Math Open at Andover 2022 Statistics 

The MOAA Team

October 8th, 2022

## Speed Round

The Speed Round was a 15-problem, 40-minute exam. Problem weights are listed below.

| Problem | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 7 | 8 | 10 | 11 | 12 | 13 |

## In-Person

Mean: 22.0
First Quartile: 10
Median: 19
Third Quartile: 29

Minimum: o
Maximum: 87
Mode: 6
Standard Deviation: 16.6


Virtual

Mean: 22.9
First Quartile: 10
Median: 19
Third Quartile: 32

Minimum: o
Maximum: 90
Mode: 6
Standard Deviation: 16.6

Points scored


## Accuracy Round

The Accuracy Round was a 10-problem, 50-minute exam. Problem weights are listed below.

| Problem | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight | 4 | 4 | 5 | 6 | 8 | 10 | 13 | 16 | 16 | 18 |

## In-Person

Mean: 18.0
First Quartile: 8
Median: 16
Third Quartile: 27

Minimum: o
Maximum: 50
Mode: 4
Standard Deviation: 12.6

## Points scored



## Virtual

Mean: 21.1
First Quartile: 8
Median: 19

Third Quartile: 31
Minimum: o
Maximum: 84

Mode: 4
Standard Deviation: 16.0

Points scored


## Individual Total

The Individual Total score for each competitor is the sum of speed and accuracy scores.

## In-Person

Mean: 40.3
First Quartile: 19
Median: 38
Third Quartile: 57.5

Minimum: o
Maximum: 113
Mode: 10
Standard Deviation: 26.0


Virtual

Mean: 41.2
First Quartile: 15
Median: 37
Third Quartile: 60

Minimum: o
Maximum: 151
Mode: 4
Standard Deviation: 32.4

Points scored


## Team Round

The Team Round was a 10-problem, 40-minute exam. Problem weights are listed below.

| Problem | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight | 5 | 5 | 7 | 8 | 10 | 15 | 20 | 20 | 25 | 30 | 35 | 50 | 50 | 50 | 70 |

## In-Person

Mean: 51.7
First Quartile: 23.5
Median: 35
Third Quartile: 67.5

Minimum: 5
Maximum: 160
Mode: 15, 27, 35, 42
Standard Deviation: 43.1

## Points scored



## Virtual

Mean: 37.7
First Quartile: 18
Median: 27
Third Quartile: 50

Minimum: o
Maximum: 190
Mode: 30, o
Standard Deviation: 33.8

## Points scored



## Gunga Bowl

The Guts Round was a 27-problem, 75-minute exam. Problem weights are listed below.

| Round | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 30 |

## In-Person

Mean: 176.8
First Quartile: 117
Median: 157
Third Quartile: 216

Minimum: 100
Maximum: 338
Mode: 108
Standard Deviation: 65.0

## Points scored



## Virtual

Mean: 105.7
First Quartile: 24
Median: 106
Third Quartile: 155

Minimum: 24
Maximum: 302
Mode: 24
Standard Deviation: 72.3

Points scored


## Team Sweepstakes

The Team Sweepstakes score is the sum of the two times the average Individual Total score, the Team Round score, and the Gunga Bowl score.

## In-Person

Mean: 284.0
First Quartile: 178
Median: 260
Third Quartile: 362

Minimum: 124
Maximum: 645
Mode: 284
Standard Deviation: 134.2

## Points scored



## Virtual

Mean: 200.9
First Quartile: 118
Median: 193
Third Quartile: 261

Minimum: 24
Maximum: 633
Mode: 190
Standard Deviation: 109.8

Points scored


