

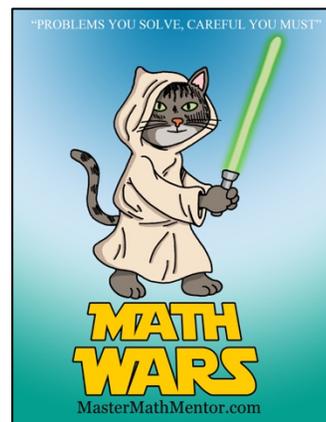
# Math Wars – SAT/ACT

## Topic 521 – Distributions



Maximum Time: 5.25 Minutes

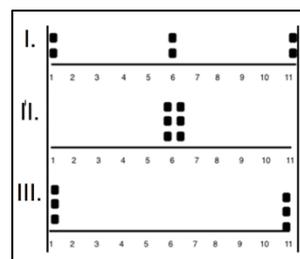
**Directions:** To start, you need to download the Math Wars application on your cell phone: Use the QR code or the url: <https://mastermathmentor.com/mmm/mathwars.ashx?key=521>



When ready, start the timer and then solve the problems below, entering your choice, A, B, C, D and pressing  for each problem when you are sure of your answer. When complete, stop the timer. You will see problems you got correct in green and incorrect in red. You will receive a score based on how many problems you got right and your time. A perfect score is all problems correct using half the maximum time or less. You can text or email your friends with your results.

1. (1 pt) A large number of critics rate a movie on a 0-10 integer basis with the mean, median, and mode calculated. The data is skewed to the right. Which best describes the relationship of these statistics.
- A. Median > Mean                      B. Mean > Median  
C. Mode > Median > Mean        D. Mode > Mean > Median

2. (3 pts) On days I, II and III, a building manager notes the floor location of the building's 6 elevators as shown to the right. Arrange the days in order of standard deviation, from largest to smallest.



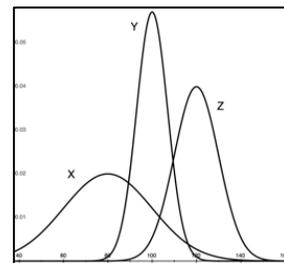
- A. I, II, II                                      B. II, III, I  
C. III, II, I                                     D. III, I, II

3. (5 pts) The table to the right gives the scores for students taking a history exam. Find the difference between the median and mean score?

Score	Frequency
94	3
90	1
87	2
80	5

- A. 6    B. 2  
C. 1    D. 0

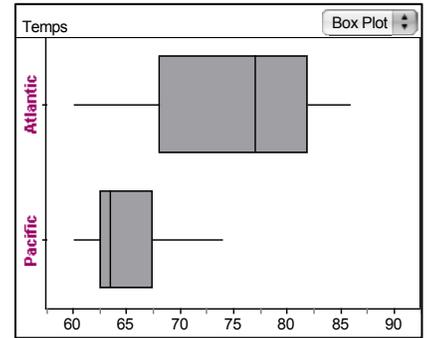
4. (7 pts) To the right are 3 graphs representing distributions, X, Y, and Z. Find i) the distribution with the largest mean and ii) the distribution with the largest standard deviation.



- A. Y, Y    B. Z, X  
C. Y, Z    D. X, Z

5. (9 pts) A sample of the average temperature of beaches in the summer along the United States coasts, focusing on the Atlantic and Pacific oceans. Their distribution can be shown by the boxplot to the right. How many following statements are definitely true?

- There were more Atlantic beaches sampled than Pacific.
- The temperatures of the Atlantic beaches sampled have a greater standard deviation than that of the Pacific Ocean beaches.
- More than 75% of the Atlantic beaches surveyed are warmer than Pacific beaches.



A. 0

B. 1

C. 2

D. 3