Lesson 2:

Mean (or Standard) Deviation

Mar 24-5:13 PM

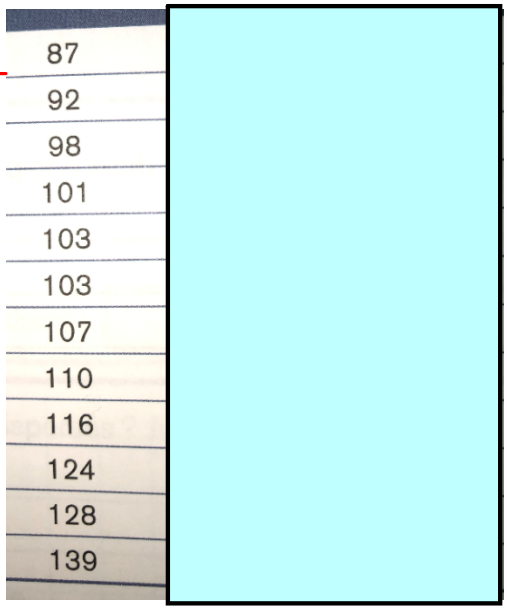
Mean Deviation measure of how spread out the data is.

the number of points scored by 12 players in one week

87 92 98 101 103 103 107 110 116 124 128 139

to determine mean deviation

1. calculate the "mean"
2. determine how far each data value is from the "mean" (positive values only)
3. Calculate the average (mean) of those differences
4. Interpret the results



Mar 3-7:49 AM

example 1:

to determine mean deviation

1. calculate the "mean"
2. determine how far each data value is from the "mean"
3. Calculate the average (mean) of those differences
4. Interpret the results

data #	data	data - mean	absolute value
1	2		
2	4		
3	5		
4	7		
5	12		
Total			

Mar 3-9:20 PM

example 2:

to determine mean deviation

1. calculate the "mean"
2. determine how far each data value is from the "mean"
3. Calculate the average (mean) of those differences
4. Interpret the results

data #	data	data - mean	absolute value
1	2		
2	7		
3	11		
4	15		
5	18		
Total			

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A higher "mean deviation" means that the data is spread out

A lower "mean deviation" means that the data is closer together and the data is more homogenous (more "alike")

Mar 3-8:00 AM

Given the two tables below, determine which art class had the more homogeneous distribution of marks using the Mean Deviation

Mr. Cooper's Class

i	x_i	$x_i - \bar{x}$	$\lvert x_i - \bar{x} \rvert$
1	60		
2	70		
3	75		
4	85		
5	90		
Total			

Mr. Dean's Class

i	x_i	$x_i - \bar{x}$	$\lvert x_i - \bar{x} \rvert$
1	60		
2	65		
3	70		
4	75		
5	80		
6	100		
Total			

Mar 3-9:14 PM

exit problem:

Find the mean deviation

17 24 25 36 38 38 59 91

data #	data	data-mean	absolute value
1			
2			
3			
4			
5			
6			
7			
8			
total			

Mar 3-8:03 AM

extension problems

Mar 25-1:47 PM

Mr. Porter gives a test to his geography class and analyzes the results. He finds that that there is a great difference between the scores of some students who are mastering the material and others who are really struggling with it, and decides he needs to do something about the problem so the scores won't be quite so widespread. Mr. Porter pairs the students who achieved top scores with those who got low scores for extra tutoring, then tests the whole class again. Based on the test scores below, did the extra tutoring help solve Mr. Porter's problem?

Test 1: 48, 51, 52, 53, 61, 62, 76, 83, 87, 92

Test 2: 50, 57, 64, 68, 74, 78, 79, 81, 88, 94

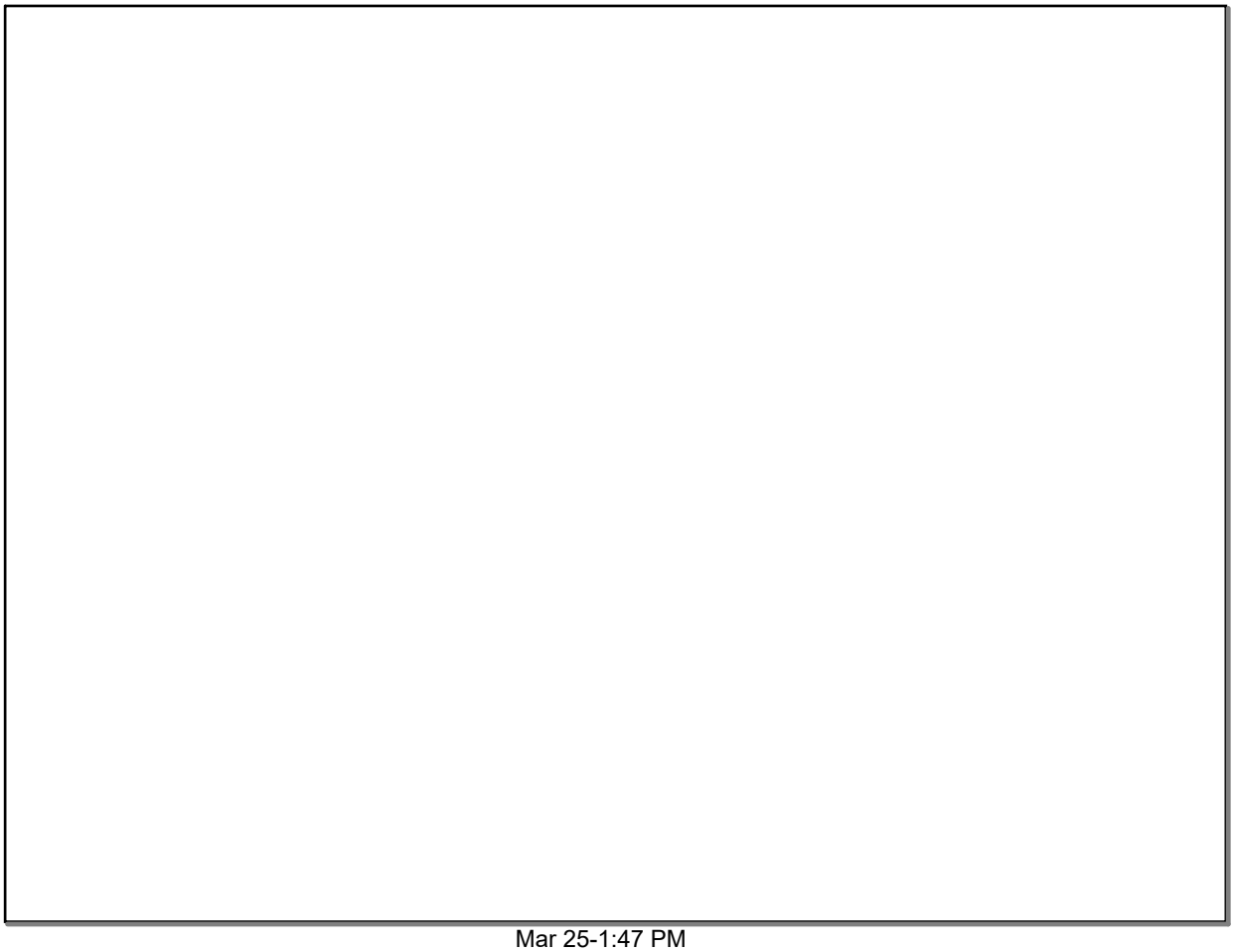
Mar 3-9:14 PM

A casting director is auditioning groups of extras for a movie. The actors who are chosen will be required to be the front row of a stampede in the movie, and the director wants the whole group to be running at approximately the same pace for the scene. She auditions two different groups running in a pack, and records each actor's time (in sec). Which of the two groups best fits the casting directors needs?

Group A:			
11.2	12.7	12.9	13.6
14.2	14.8	15.3	15.7

Group B:			
14.7	14.9	15.6	16.1
16.6	17.4	17.7	17.9

Mar 25-1:46 PM



Mar 25-1:47 PM