

Name: \_\_\_\_\_

*Key*

Date: \_\_\_\_\_

**Task: Math Class**

**MCC9-12.S.ID. 1** Represent data with plots on the real number line (dot plots, histograms, and box plots).

**MCC9-12.S.ID. 2** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, mean absolute deviation) of two or more different data sets.

**MCC9-12.S.ID. 3** Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

Mr. Turner has two Math 2 classes. With one class, he lectured, and the students took notes. In the other class, the students worked in small groups to solve math problems. After the first test, Mr. Turner recorded the student grades to determine if his different styles of teaching might have impacted student learning. *81.5*

**Class 1:** 80, 81, 81, 75, 70, 72, 74, 76, 77, 77, 77, 77, 79, 84, 88, 90, 86, 80, 80, 78, 82

**Class 2:** 70, 90, 88, 89, 86, 86, 86, 86, 84, 82, 77, 79, 84, 84, 84, 86, 87, 88, 88, 88

*70 72 74 75 76 | 77 77 77 77 78 79 | 80 80 80 81 81 | 82 84 86 88 90*  
*79.5 79.5 81.5*

*70 77 79 82 84 | 84 84 84 86 86 | 86 86 86 87 88 | 88 88 88 89 90*  
*84 86 88*

Analyze his student grades by calculating the:

1. Mean *class 1:  $\frac{1587}{20} = 79.35$  class 2:  $\frac{1692}{20} = 84.6$*

2. Median *class 1: 79.5 class 2: 86*

3. Interquartile range *class 1: 81.5 - 76.5 = 5 class 2: 88 - 84 = 4*

4. Which class do you think was the lecture and which was the small group? **Why?**

*Various*

(turn page over to continue)

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### Mean Absolute Deviation

1) Find the mean absolute deviation for the following data sets, rounding to the nearest hundredth if necessary:

a) 2, 5, 8, 3, 6, 9, 1, 4, 8, 2, 12

1) 2, 2, 3, 4, 5, 6, 8, 8, 9, 12

1)  $\bar{x} = 5.45$

4) 31.45

5) 2.86

2+3) 4.45, 3.45, 3.45, 2.45, 1.45, .45, .55, 2.55, 2.55, 3.55, 6.55

b) 23, 26, 28, 21, 19, 29, 23, 24

1)  $\bar{x} = 24.13$

4) 21.26

5) 2.66

2+3) 1.13, 1.87, 3.87, 3.13, 5.13, 4.87, 1.13, 0.13

c) 5.1, 5.8, 5.9, 5.5, 5.6, 5.2

1)  $\bar{x} = 5.52$

4) 1.5

5) .25

2+3) .42, .28, .38, .02, .08, .32

2) Jimmy decided to find the mean absolute deviation of the shoe sizes in his class. Jimmy has weird ideas about having a good time. The shoe sizes in his class were: 6, 12, 9, 6, 8, 10, 14, 7, 7, 6, 8, 10, and 9. Assuming he did his math correctly, what was his result?

1)  $\bar{x} = 8.62$

4) 24.62

5) 1.89

2+3) 2.62, 3.38, .38, 2.62, .62, 1.38, 5.38, 1.62, 1.62, 2.62, .62, 1.38, .38

3) Sarah is doing a price comparison before she buys a new kerjigger. As she checked at stores and online, she found prices of \$99, \$139, \$95, \$104, \$111, \$89, \$129, \$119, and \$95. What was the mean absolute deviation of the prices she found?

1)  $\bar{x} = 108.89$

4) 124.89

5) 13.88

2+3) 9.89, 30.11, 13.89, 4.89, 2.11, 19.89, 20.11, 10.11, 13.89