Name: _____*Answer 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.

70, 72, 74, 75, 76 | 77, 77, 77, 78, 79 | 80, 80, 80, 81, 81 | 82, 84, 86, 88, 90   *76.5   79.5   81.5*

Class 1: 80, 81, 81, 75, 70, 72, 74, 76, 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, 77, 79, 82, 84 | 84, 84, 84, 86, 86 | 86, 86, 86, 87, 88 | 88, 88, 88, 89, 90   *84 (86)   88*
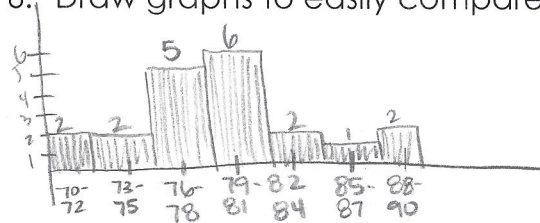
Analyze his student grades by calculating the:

1. Mean   Class 1: 79.35
             Class 2: 84.6

2. Median   Class 1: 79.5
            Class 2: 86

3. Mean Absolute Deviation   Class 1: 3.85
                             Class 2: 3.28

4. Interquartile range   Class 1: 5
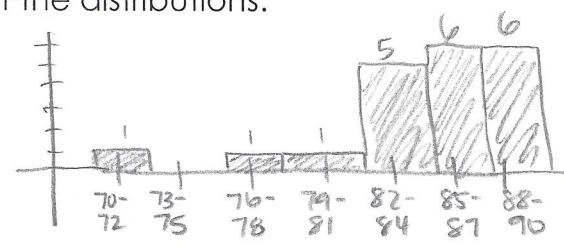   Class 2: 4

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

Class 2 with small groups - because they had more practice w/ applications

(answers may vary)

6. Draw graphs to easily compare the shapes of the distributions.

Class 1

Class 2

7. Which measure of center and spread is more appropriate to use? Explain.

Median better estimates