

Date _____

Learning Goal: I can analyze the effects on summary statistics of changes in data sets.

Work on the following problems with your partners and compare results. We will review as a class at the end of the hour. Use your calculator to calculate the statistics
(**STATS - EDIT , STATS - Calc...**)

1. Use Data Set A = { 7, 4, 8, 15, 11, 5, 0, 3, 10, 2, 1} to answer the following:

a) Mean = _____, σx = _____, Median = _____, Q_1 = _____, Q_3 = _____, IQR = _____

b) **Add 5 to ALL of the data values** in Set A and then find:

Mean = _____, σx = _____, Median = _____, Q_1 = _____, Q_3 = _____, IQR = _____

c) **Multiply all the data values in Set A by 3** and then find:

Mean = _____, σx = _____, Median = _____, Q_1 = _____, Q_3 = _____, IQR = _____

d) Note two things that you notice from your answers to (b) and (c):

i)

ii)

2. Calculate the mean and standard deviation of the following two sets of data:

Set 1: 56, 76, 60, 88, 90, 58, 70, 82, 70, 64, 52 Mean = _____, σx = _____

Set 2: 28, 38, 30, 44, 45, 29, 35, 41, 35, 32, 26 Mean = _____, σx = _____

b) Do you notice anything special about the results? Why is that?

3. **Challenge:** Mr. Lazur gave a 44-question test. Each question was worth one point. The mean score was 32.6 points with a standard deviation of 4.7 points. There was one perfect paper (44 points) and Mr. Lazur wants to convert all the scores to a 100-point scale. He multiplies each score by 2.1 and adds 7.6 to get each student's score out of 100 {because $44 \times 2.1 + 7.6 = 100$ }. After Mr. Lazur makes this conversion, what are the new mean scores and standard deviations? (use the back of this sheet to work out your answer).