Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intro to Statistics – Ms. Klimczuk

**Comparing Groups**

1. The following data shows the scores on a recent test.

 Boys: 78, 89, 92, 90, 56, 72, 86, 98, 67, 72, 87, 42, 56, 65, 74, 52, 54

Girls: 98, 97, 67, 87, 65, 92, 83, 74, 81, 67, 95, 88, 98, 87, 100, 32, 88, 96

1. Compare the groups by making a back to back stem-and-leaf plot. Make sure to include a key.
2. How do the students compare in terms of grades? Explain your reasoning using a description of your stem-and-leaf display.
3. Now let’s make comparative boxplots on the graphing calculators. Enter these data into L1 and L2. Set up both plots.
4. How do the students compare in terms of grades? Explain your reasoning using a description of your boxplots.
5. The Beatles were a rock and roll band that achieved stardom in the 1960's. They recorded many albums that remain popular to the current day. Among Beatles fans, it is interesting to examine the musical development of the group. The style of the Beatles' music changed significantly over their career. One can describe this change in musical style in a variety of ways. Suppose that we are interested in comparing the lengths of songs on the Beatles' three albums "Rubber Soul", "Sergeant Pepper", and "The White Album" that were released in the years 1966, 1967 and 1968, respectively.

Times in seconds of the tracks of the Beatles albums:

“Rubber Soul”: 150, 126, 202, 165, 139, 164, 162, 171, 154, 147, 148, 137, 144, 139

“Sergeant Pepper”: 119, 166, 205, 167, 153, 204, 156, 303, 158, 163, 155, 80, 303

“The White Album: 165, 240, 130, 190, 62, 185, 286, 167, 148, 121, 140, 124, 213, 232,

 102, 106, 177, 160, 241, 166, 145, 195, 270, 188, 253, 162, 175, 191,

 495, 194

1. Compare the three tracks using comparative boxplots. Create these boxplots by hand. I will allow you to use 1-var stats on the calculator to get your 5-number summary.
2. What conclusions can you make about the style of Beatles music over these years.