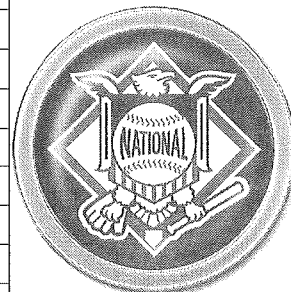


1. The table shows the 2010 average salary for an MLB player by team for both the American League (AL) and the National League (NL).

| MLB Players' Average 2010 Salaries (in Millions of Dollars) | | | |
|---|--------|-----------------|--------|
| American League | | National League | |
| Team | Salary | Team | Salary |
| New York | 8.3 | Chicago | 5.4 |
| Boston | 5.6 | Philadelphia | 5.1 |
| Detroit | 4.6 | New York | 5.1 |
| Chicago | 4.2 | St. Louis | 3.7 |
| Los Angeles | 3.6 | Los Angeles | 3.7 |
| Seattle | 3.5 | San Francisco | 3.5 |
| Minnesota | 3.5 | Houston | 3.3 |
| Baltimore | 3.1 | Atlanta | 3.1 |
| Tampa Bay | 2.7 | Colorado | 2.9 |
| Kansas City | 2.5 | Milwaukee | 2.8 |
| Cleveland | 2.1 | Cincinnati | 2.8 |
| Toronto | 2.1 | Arizona | 2.3 |
| Texas | 1.9 | Florida | 2.1 |
| Oakland | 1.7 | Washington | 2.0 |
| | | San Diego | 1.5 |
| | | Pittsburgh | 1.3 |



- a. Find the values for the five-number summary for each league.

| | American League | National League |
|--------------------------|-----------------|-----------------|
| Minimum | | |
| Quartile 1 | | |
| Median | | |
| Quartile 3 | | |
| Maximum | | |
| IQR | | |
| Outliers: Max and Min | | |

- b. Complete the number line below to create two box plots, one for each league.



Identify the outlier(s) in each data set.

Find the mean, median, IQR, and range of the data set including the outlier. Then, find the mean, median, IQR, and range of the data set without the outlier. EXPLAIN how the outlier affects the mean, median, IQR, and range.

2. 31, 35, 40, 40, 41, 98

With outlier...

Mean:

Median:

IQR:

Range:

Without outlier...

Mean:

Median:

IQR:

Range:

Explain how the outlier has affected the mean, median, IQR, and range.

3. 82, 24, 100, 96, 79, 93, 86

With outlier...

Mean:

Median:

IQR:

Range:

Without outlier...

Mean:

Median:

IQR:

Range:

Explain how the outlier has affected the mean, median, IQR, and range.

4. Suppose the minimum in a data set is the same as the first quartile. How would this affect a box plot of the data? Explain.

5. Dolly and Willie's scores are shown. Dolly claims that she is the better student, but Willie claims that he is the better student. What statistics make either Dolly or Willie seem like the better student?

