**Measures of Spread: Interquartile Range and Standard Deviation**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNC Football scores per game in 2012: 62, 27, 34, 27, 66, 48, 18, 30, 43, 50, 37, 45

1. Calculate the interquartile range (IQR) of the data set listing the points per game for UNC’s football team in 2012.
2. Calculate the standard deviation of the data set listing the points per game for UNC’s football team in 2012.

|  |  |  |  |
| --- | --- | --- | --- |
| $$x$$ | $$\overbar{x}$$ | $$(x-\overbar{x})$$ | $$(x-\overbar{x})^{2}$$ |
| 62 |  |  |  |
| 27 |  |  |  |
| 34 |  |  |  |
| 27 |  |  |  |
| 66 |  |  |  |
| 48 |  |  |  |
| 18 |  |  |  |
| 30 |  |  |  |
| 43 |  |  |  |
| 50 |  |  |  |
| 37 |  |  |  |
| 45 |  |  |  |

|  |  |
| --- | --- |
| $$Σ(x-\overbar{x})^{2}$$ |  |
| $$\frac{Σ(x-\overbar{x})^{2}}{n-1}$$ |  |
| $$\sqrt{\frac{Σ(x-\overbar{x})^{2}}{n-1}}$$ |  |

1. What is the formula used for deciding whether or not a data set has outliers?
2. Are there any outliers?
3. If a data set has outliers, which measure of spread (IQR or standard deviation) is better to use to describe the spread of the data?

Independent Practice

Duke Football scores per game in 2012: 46, 13, 54, 38, 34, 42, 20, 33, 7, 20, 24, 45, 34

1. Calculate the interquartile range (IQR) of the data set listing the points per game for Duke’s football team in 2012.
2. Calculate the standard deviation of the data set listing the points per game for Duke’s football team in 2012.
3. Are there any outliers?