

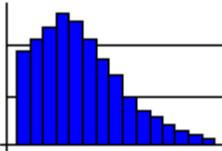
For questions 1-4, consider the following data set: **4 3 6 2 8 8**

1. What is the median of the data set?
 - a. 4
 - b. 5
 - c. 2
 - d. 4.5

2. If I change one of the 8's in the data set to 18, how would that change the median?
 - a. The median would be higher
 - b. The median would be lower
 - c. The median would remain the same

3. If I change one of the 8's in the data set to 18, how would that change the mean?
 - a. The mean would be higher
 - b. The mean would be lower
 - c. The mean would remain the same

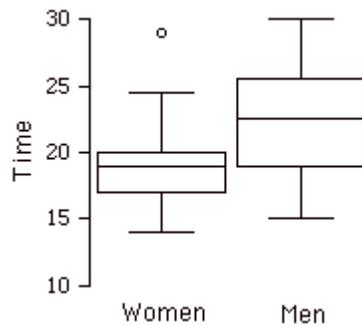
4. What is the mode of the data set?
 - a. there is no mode
 - b. 8
 - c. 2

5. For the distribution in the picture

 - a. mean \approx median
 - b. mean < median
 - c. mean > median
 - d. Can't tell the relationship of the mean and the median without looking at the data.

6. Which one of these is NOT true about the standard deviation?
 - a. The standard deviation is zero only if the observations are all the same.
 - b. The standard deviation has the same unit as the data.
 - c. The standard deviation is used as a measure of spread when the mean is use as the measure of center.
 - d. The standard deviation is resistant to outliers.

7. What percent of the data lies between the first quartile, Q_1 , and the Median?
- About 50%
 - About 25%
 - About 75%
 - Can't tell without looking at the data.

For questions 8-14 consider the following situation: Students in an Introductory Statistics were presented with a page containing 30 colored rectangles. Their task was to name the colors as quickly as possible, and their times (in seconds) were recorded. We'll compare the times for the 16 men and 31 women who participated in the experiment by making separate box plots for each gender.



For questions 8-14 decide if the statement true or false.

- T F The first quartile of the times for men is about the same as the median of the times for women.
- T F The range of time men needed to name the colors is about 30 seconds.
- T F About 4 men needed 25 -30 seconds to name the colors.
- T F About 75% of the women named the colors in 12-20 seconds.
- T F The variability in times is less for the women.
- T F The distribution of times for men seems to be fairly symmetric.
- T F The interquartile range of the times for the women is about 3 seconds.

15. Given the following data set: 1 14 15 16 17 18 19 21 25 33 41

According to the 1.5(IQR) rule,

- the only outlier is 1.
- the only outlier is 41.
- the only outliers are 1 and 41.
- there are no outliers.

16. Which one of the following measures is resistant to outliers?
- a. standard deviation
 - b. range
 - c. median
 - d. mean
17. Which one of the following is true?
- a. The five-number summary consists of the following measures: min., Q1, mean, Q3, max.
 - b. The median and the standard deviation are always paired up as the measures of center and spread.
 - c. The sum of the deviations is always zero.
 - d. The range, the IQR, and the standard deviation are all measures of the center of a distribution.
18. For the dataset “volumes of milk dispensed into 2-gallon milk cartons,” should you use the mean or the median to describe the center?
- a. mean
 - b. median
19. Heights of a kindergarten class are fairly normally distributed with mean 45 inches, and standard deviation 2 inches. If Sophie 40 inches tall, is she unusually short?
- a. yes
 - b. no
20. The scores of a statistics quiz are fairly normally distributed with mean of 14 points, and standard deviation 1 point. If you got 16 points, what is your z-score on this quiz?
- a. $16/14 = 1.143$
 - b. $14/16 = 0.875$
 - c. $(16-14)/1 = 2$
 - d. $(14-16)/1 = -2$