## DATA ANALYSIS 5

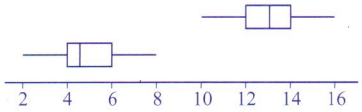
Which of the following are true statements?

I. Stemplots are useful both for quantitative and categorical data sets.
II. Stemplots are equally useful for small and very large data sets.
III. Stemplots can show symmetry, gaps, clusters, and outliers.

(A) I only (B) II only (C) III only (D) I and II (E) I and III

## DATA ANALYSIS 18

Given these parallel boxplots, which of the following are true?




I. The ranges are the same.
II. The interquartile ranges are the same.
III. Both sets are skewed to both lower and higher values.

(A) I only (B) II only (C) III only (D) I and II (E) I, II, and III

## DATA ANALYSIS 25

Which of the following statements are true?

I. Both dotplots and stemplots can show symmetry, gaps, clusters, and outliers.
II. In histograms, relative areas correspond to relative frequencies.
III. In histograms, frequencies can be determined from relative heights.

(A) II only (B) I and II (C) I and III (D) II and III (E) I, II, and III

## DATA ANALYSIS 29

If the standard deviation of a set of observations is 0, you can conclude

(A) that there is no relationship between the observations.

(B) that the average value is 0.

(C) that all observations are the same value.

(D) that a mistake in arithmetic has been made.

(E) none of the above.

## DATA ANALYSIS 34

A random sample of golf scores gives the following summary statistics: $n = 20$, $\bar{x} = 84.5$, $S_x = 11.5$, minX = 68, $Q_1 = 78$, Med = 86, $Q_3 = 91$, maxX = 112. What can be said about the number of outliers?

(A) 0 (B) 1 (C) 2 (D) At least 1 (E) At least 2

## DATA ANALYSIS 35

Which of the following statements are true?

I. Two students working with the same set of data may come up with histograms that look different.
II. Displaying outliers is less problematic when using histograms than when using stemplots.
III. Histograms are more widely used than stemplots or dotplots because histograms display the values of individual observations.

(A) I only (B) II only (C) III only (D) I and II (E) II and III

## DATA ANALYSIS 39

Using the most commonly accepted definition of outliers, a set has five outliers. If every value of the set is increased by 20 percent, how many outliers will there now be?

(A) Fewer than five (B) Five (C) Six (D) More than six

(E) It is impossible to determine without further information.

## DATA ANALYSIS 80

If quartiles $Q_1 = 50$ and $Q_3 = 70$, which of the following must be true?

I. The median is 60.
II. The mean is between 50 and 70.
III. The standard deviation is at most 20.

(A) I only (B) II only (C) III only (D) All are true.

(E) None may be true.