

1

A certain list of 200 test scores has an average (arithmetic mean) of 85 and a standard deviation of d , where d is positive. Which of the following two test scores, when added to the list, must result in a list of 202 test scores with a standard deviation less than d ?

- (A) 80 and 80
- (B) 80 and 85
- (C) 80 and 90
- (D) 85 and 85
- (E) 85 and 90

2

If the mean of set S does not exceed mean of any subset of set S , which of the following must be true about set S ?

- I. Set S contains only one element
 - II. All elements in set S are equal
 - III. The median of set S equals the mean of set S
- A. None of the three qualities is necessary
 - B. II only
 - C. III only
 - D. II and III only
 - E. I, II, and III

3

70 75 80 85 90 105 105 130 130 130

The list shown consist of the times, in seconds, that it took each of 10 school children to run a distance of 400 meter. If the SD of ten running times is 22.4 seconds, rounded to nearest tenth of second, how many of the 10 running times are more than one SD below the mean of the 10 running times?

- A. one
- B. two
- C. three
- D. four
- E. five

4

S is a set containing 9 different numbers. T is a set containing 8 different numbers, all of which are members of S . which of the following statements cannot be true?

- A. The mean of S is equal to the mean of T
- B. The median of S is equal to the median of T
- C. The range of S is equal to the range of T
- D. The mean of S is greater than the mean of T
- E. The range of S is less than the range of T