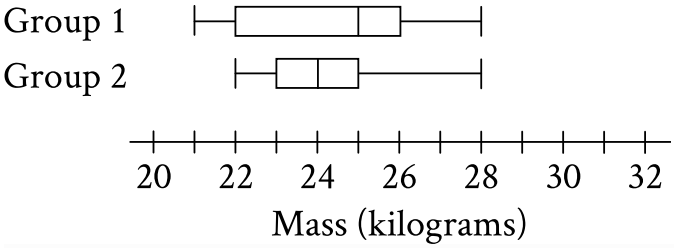
Question ID 59b7ef3e

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 59b7ef3e



The box plots summarize the masses, in kilograms, of two groups of gazelles. Based on the box plots, which of the following statements must be true?

A. The mean mass of group 1 is greater than the mean mass of group 2.

B. The mean mass of group 1 is less than the mean mass of group 2.

C. The median mass of group 1 is greater than the median mass of group 2.

D. The median mass of group 1 is less than the median mass of group 2.

Question ID df636b8e

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: df636b8e

Data set A consists of the heights of 75 objects and has a mean of 25 meters. Data set B consists of the heights of 50 objects and has a mean of 65 meters. Data set C consists of the heights of the 125 objects from data sets A and B. What is the mean, in meters, of data set C?

Question ID 30a4f4a3

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 30a4f4a3

Data set A consists of the heights of 75 buildings and has a mean of 32 meters. Data set B consists of the heights of 50 buildings and has a mean of 62 meters. Data set C consists of the heights of the 125 buildings from data sets A and B. What is the mean, in meters, of data set C?

Question ID 052af884

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 052af884

Data set F consists of 55 integers between 170 and 290. Data set G consists of all the integers in data set F as well as the integer 10. Which of the following must be less for data set F than for data set G?

I. The mean

II. The median

A. I only

B. II only

C. I and II

D. Neither I nor II

Question ID adcab929

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: adcab929

Data value	Frequency
6	3
7	3
8	8
9	8
10	9
11	11
12	9
13	0
14	6

The frequency table summarizes the 57 data values in a data set. What is the maximum data value in the data set?

Question ID 3c4d9ad7

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 3c4d9ad7

The table shown summarizes the number of employees at each of the 17 restaurants in a town.

Number of employees	Number of restaurants
2 to 7	2
8 to 13	4
14 to 19	2
20 to 25	7
26 to 31	2

Which of the following could be the median number of employees for the restaurants in this town?

A. 2

B. 9

C. 15

D. 21

Question ID 6a85d2ca

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 6a85d2ca

Each of the following frequency tables represents a data set. Which data set has the greatest mean?

A.

Value	Frequency
70	4
80	5
90	6
100	7

B.

Value	Frequency
70	6
80	6
90	6
100	6

C.

Value	Frequency
70	7
80	6
90	6
100	7

D.

Value	Frequency
70	8
80	5
90	5
100	8

Question ID 877d34aa

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 877d34aa

The dot plot represents the 15 values in data set A. Data set B is created by adding 56 to each of the values in data set A. Which of the following correctly compares the medians and the ranges of data sets A and B?

A. The median of data set B is equal to the median of data set A, and the range of data set B is equal to the range of data set A.

B. The median of data set B is equal to the median of data set A, and the range of data set B is greater than the range of data set A.

C. The median of data set B is greater than the median of data set A, and the range of data set B is equal to the range of data set A.

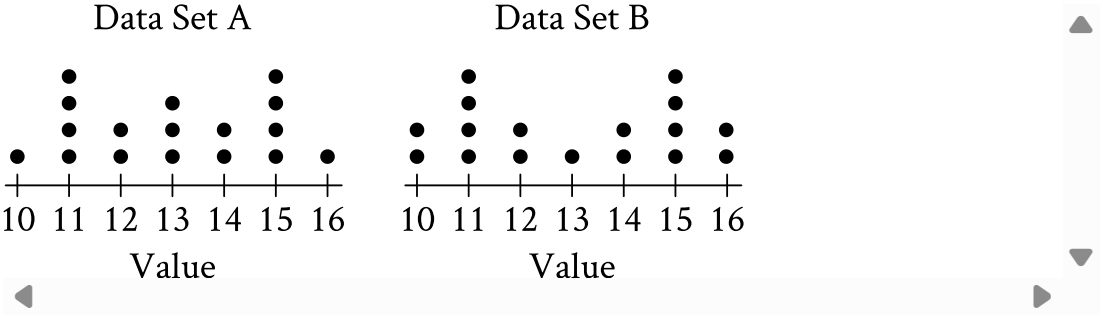
D. The median of data set B is greater than the median of data set A, and the range of data set B is greater than the range of data set A.

Question ID a24e4c19

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: a24e4c19

The dot plots represent the distributions of values in data sets A and B.



Which of the following statements must be true?

I. The median of data set A is equal to the median of data set B.

II. The standard deviation of data set A is equal to the standard deviation of data set B.

A. I only

B. II only

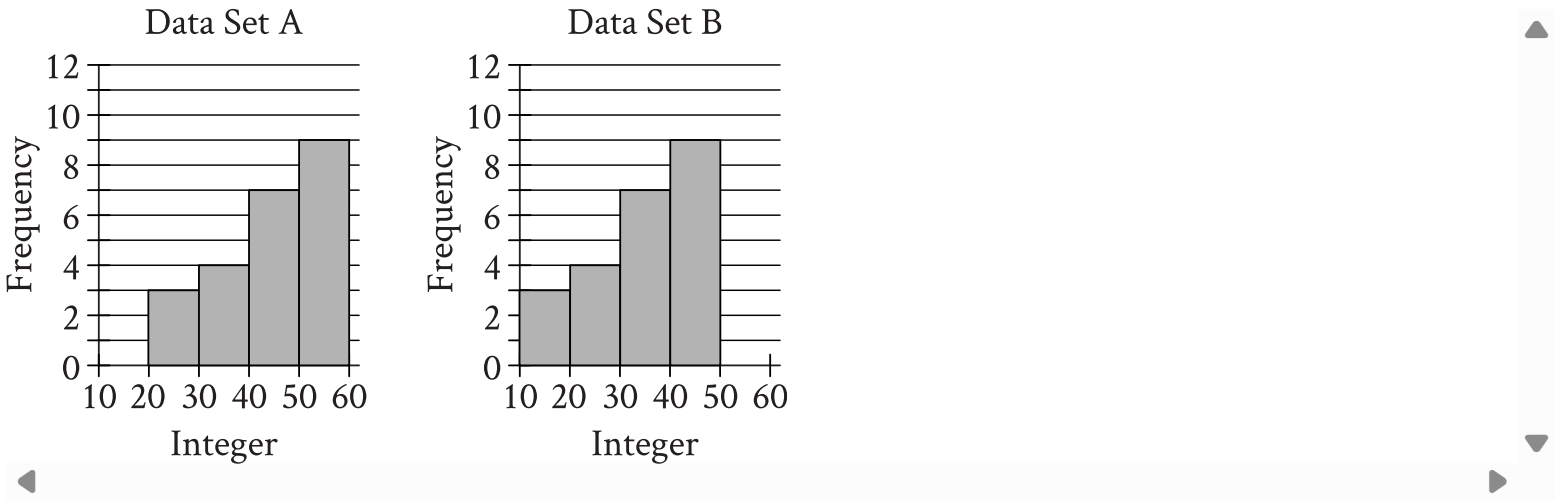
C. I and II

D. Neither I nor II

Question ID 8d82c32b

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 8d82c32b



Two data sets of 23 integers each are summarized in the histograms shown. For each of the histograms, the first interval represents the frequency of integers greater than or equal to 10, but less than 20. The second interval represents the frequency of integers greater than or equal to 20, but less than 30, and so on. What is the smallest possible difference between the mean of data set A and the mean of data set B?

A. 0

B. 1

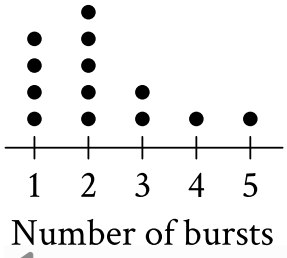
C. 10

D. 23

Question ID 8521e464

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 8521e464



The dot plot represents a data set of the number of bursts for 13 eruptions of a steam vent. If an additional eruption with 11 bursts is added to this data set to create a new data set of 14 eruptions, which of the following measures will be greater for the new data set than for the original data set?

I. The median number of bursts

II. The mean number of bursts

A. I and II

B. I only

C. II only

D. Neither I nor II

Question ID d029366d

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: d029366d

Data set A consists of 10 positive integers less than 60. The list shown gives 9 of the integers from data set A.

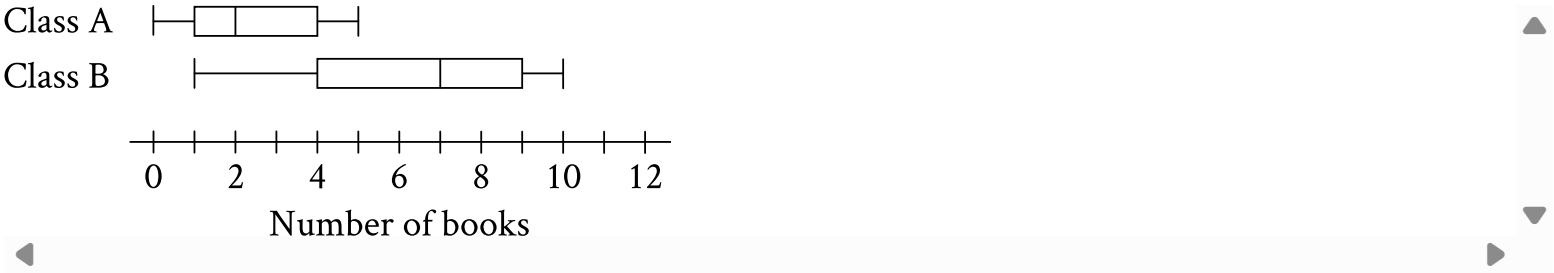
$$43, 45, 44, 43, 38, 39, 40, 46, 40$$

The mean of these 9 integers is 42. If the mean of data set A is an integer that is greater than 42, what is the value of the largest integer from data set A?

Question ID 31511d69

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 31511d69



The two box plots show the distribution of number of books read over the summer by the students in two different English classes. What is the positive difference between the ranges of number of books read over the summer for the two classes?

Question ID 124cbdca

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: 124cbdca

The table shows the frequency of values in a data set.

Value	Frequency
19	7
21	1
23	7
25	4

What is the minimum value of the data set?

Question ID ab74cba9

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: ab74cba9

Value	Data set A frequency	Data set B frequency
30	2	9
34	4	7
38	5	5
42	7	4
46	9	2

Data set A and data set B each consist of 27 values. The table shows the frequencies of the values for each data set. Which of the following statements best compares the means of the two data sets?

A. The mean of data set A is greater than the mean of data set B.

B. The mean of data set A is less than the mean of data set B.

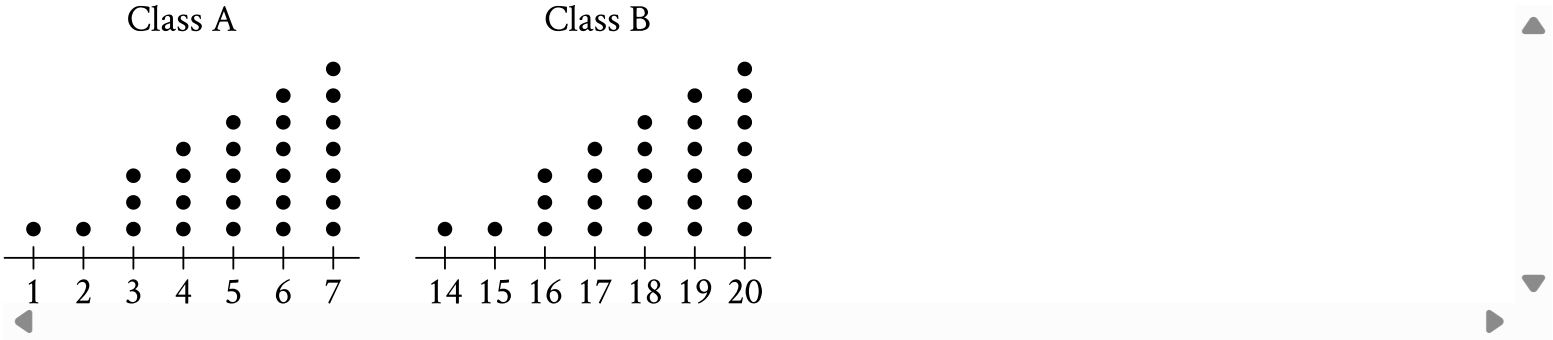
C. The mean of data set A is equal to the mean of data set B.

D. There is not enough information to compare the means of the data sets.

Question ID e6f6cf0d

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	

ID: e6f6cf0d



Each of the dot plots shown represents the number of glue sticks brought in by each student for two classes, class A and class B. Which statement best compares the standard deviations of the numbers of glue sticks brought in by each student for these two classes?

A. The standard deviation of the number of glue sticks brought in by each student for class A is less than the standard deviation of the number of glue sticks brought in by each student for class B.

B. The standard deviation of the number of glue sticks brought in by each student for class A is equal to the standard deviation of the number of glue sticks brought in by each student for class B.

C. The standard deviation of the number of glue sticks brought in by each student for class A is greater than the standard deviation of the number of glue sticks brought in by each student for class B.

D. There is not enough information to compare these standard deviations.