Question ID 457d2f2c

P'PLEUM

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 457d2f2c

3.1

A data set of 27 different numbers has a mean of 33 and a median of 33. A new data set is created by adding 7 to each number in the original data set that is greater than the median and subtracting 7 from each number in the original data set that is less than the median. Which of the following measures does NOT have the same value in both the original and new data sets?

A. Median ✗

B. Mean ✗

C. Sum of the numbers ✗

D. Standard deviation f ยังเท่าเดิม

Question ID 1142af44

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 1142af44

3.2

Value	Frequency	cf
1	a 1	1
2	$2a$ 2	3
3	$3a$ 3	6
4	$2a$ 2	
5	a 1	

If $a = 1$

$\bar{X} = 3$

Med $= n_5 = 3$

$|3 - 3| = 0$ //

The frequency distribution above summarizes a set of data, where a is a positive integer. How much greater is the mean of the set of data than the median?

A. 0

B. 1

C. 2

D. 3

Question ID 651d83bb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 651d83bb

3.3

Two different teams consisting of 10 members each ran in a race. Each member's completion time of the race was recorded. The mean of the completion times for each team was calculated and is shown below.

Team A: 3.41 minutes

Team B: 3.79 minutes

ΣA = 34.1

ΣB = 37.9

Which of the following MUST be true?

1. Every member of team A completed the race in less time than any member of team B. ไม่จำเป็น
2. The median time it took the members of team B to complete the race is greater than the median time it took the members of team A to complete the race. ไม่รู้
3. There is at least one member of team B who took more time to complete the race than some member of team A. ✓

A. III only

B. I and III only

C. II and III only

D. I, II, and III

Question ID 1e8ccffd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 1e8ccffd

3.4

The mean score of 8 players in a basketball game was 14.5 points. If the highest individual score is removed, the mean score of the remaining 7 players becomes 12 points. What was the highest score?

A. 20

B. 24

C. 32

D. 36

$\Sigma X_{n8} = 116$

$\Sigma X_{n7} = 84$

$84 + X = 116$

$X = 32$ //

Question ID bf47ad54

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: bf47ad54

3.5

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

$\bar{X} = 87.27$

B.

Value	Frequency
70	6
80	6
90	6
100	6

$\bar{X} = 70$

C.

Value	Frequency
70	7
80	6
90	6
100	7

$\bar{X} = 85$

D.

Value	Frequency
70	8
80	5
90	5
100	8

$\bar{X} = 85$

Question ID 4ff597db

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 4ff597db

3.6

The mean amount of time that the 20 employees of a construction company have worked for the company is 6.7 years. After one of the employees leaves the company, the mean amount of time that the remaining employees have worked for the company is reduced to 6.25 years. How many years did the employee who left the company work for the company?

A. 0.45

B. 2.30

C. 9.00

D. 15.25

$\Sigma X_{n20} = 134$

$\Sigma X_{n19} = 6.25(19)$

$= 118.75$

$118.75 + X = 134$

$X = 15.25$ //

Question ID 391ae4b2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 391ae4b2

3.7

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

ไม่รู้เลย สรุปไม่ได้

A. I only

B. II only

C. I and II

D. Neither I nor II

Question ID 9d935bd8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 9d935bd8

3.8

Percent of Residents Who Earned a Bachelor's Degree or Higher

State	Percent of residents
State A	21.9%
State B	27.9%
State C	25.9%
State D	19.5%
State E	30.1%
State F	36.4%
State G	35.5%

Med = N4

19.5, 21.9, 25.9, 27.9, ...

A survey was given to residents of all 50 states asking if they had earned a bachelor's degree or higher. The results from 7 of the states are given in the table above. The median percent of residents who earned a bachelor's degree or higher for all 50 states was 26.95%. What is the difference between the median percent of residents who earned a bachelor's degree or higher for these 7 states and the median for all 50 states?

A. 0.05%

B. 0.95%

C. 1.22%

D. 7.45%

$|26.95 - 27.9| = 0.95$ //

Question ID 54d93874

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 54d93874

3.9

	Masses (kilograms)					
Andrew	2.4	2.5	3.6	3.1	2.5	2.7
Maria	*x*	3.1	2.7	2.9	3.3	2.8

$\bar{x} = 2.8$

$\bar{x} = 2.9$

Andrew and Maria each collected six rocks, and the masses of the rocks are shown in the table above. The mean of the masses of the rocks Maria collected is 0.1 kilogram greater than the mean of the masses of the rocks Andrew collected. What is the value of x ?

$$\frac{14.8 + x}{6} = 2.9$$

$$x = 2.6$$

Question ID 94237701

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: 94237701

3.10

For a certain computer game, individuals receive an integer score that ranges from 2 through 10. The table below shows the frequency distribution of the scores of the 9 players in group A and the 11 players in group B.

Score	Score Frequencies	
	Group A	Group B
2	1	0
3	1	0
4	2	0
5	1	4
6	3	2
7	0	0
8	0	2
9	1	1
10	0	2
Total	9	11

The median of the scores for group B is how much greater than the median of the scores for group A?

$\text{Med}_A = N_5 = 5$

$\text{Med}_B = N_6 = 6$

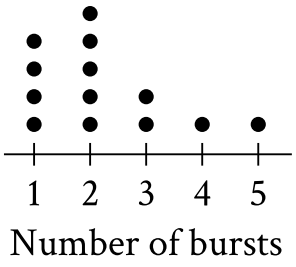
$|5-6| = 1$

Question ID e7d48c8a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: e7d48c8a

3.11



$\text{Med}_{\text{เก่า}} = N_7 = 2$

$\text{Med}_{\text{ใหม่}} = \frac{N_7 + N_8}{2} = 2$

$\bar{x}_{\text{เก่า}} = 2.23$

$\bar{x}_{\text{ใหม่}} = 2.8$

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 ecbdbe84

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■■■

ID: ecbdbe84

3.12

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

Cf
2
6
8
15 ←

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

$\text{Med} = N_9 = 20 \leqslant x \leqslant 25$