

Question ID cf40e194

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

ID: cf40e194

Response	Frequency
Once a week or more	3
Two or three times a month	16
About once a month	26
A few times a year	73
Almost never	53
Never	29
Total	200

The table gives the results of 200 people who were asked how often they see a movie in a theater. How many people responded either “never” or “almost never”?

- A. 24
- B. 53
- C. 82
- D. 118

ID: cf40e194 Answer

Correct Answer: C

Rationale

Choice C is correct. The table gives the results of 200 people who were asked how often they see a movie in a theater. The table shows that 29 people responded “never” and 53 people responded “almost never.” Therefore, $29 + 53$, or 82, people responded either “never” or “almost never.”

Choice A is incorrect. This is the difference between the number of people who responded “almost never” and the number of people who responded “never.”

Choice B is incorrect. This is the number of people who responded “almost never” but doesn’t include those who responded “never.”

Choice D is incorrect. This is the number of people who responded something other than “never” or “almost never,” rather than the number of people who responded either “never” or “almost never.”

Question Difficulty: Easy

Question ID 869b99d4

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

ID: 869b99d4

73, 74, 75, 77, 79, 82, 84, 85, 91

What is the median of the data shown?

ID: 869b99d4 Answer

Correct Answer: 79

Rationale

The correct answer is **79**. The median of a data set with an odd number of values is the middle value of the set when the values are ordered from least to greatest. Because the given data set consists of nine values that are ordered from least to greatest, the median is the fifth value in the data set. Therefore, the median of the data shown is **79**.

Question Difficulty: Easy

Question ID 57dfc866

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

ID: 57dfc866

Type of store	Average number of employees
Warehouse store	365
Department store	213
Supermarket	130

For a certain region, the table shows the average number of store employees in **2016** by type of store. Based on the table, how much greater was the average number of store employees in warehouse stores than in supermarkets?

- A. 83
- B. 152
- C. 235
- D. 495

ID: 57dfc866 Answer

Correct Answer: C

Rationale

Choice C is correct. The table shows that for a certain region in **2016**, the average number of store employees in warehouse stores was **365** and the average number of store employees in supermarkets was **130**. Subtracting **130** from **365** yields **365 – 130**, or **235**. Therefore, the average number of store employees was **235** greater in warehouse stores than in supermarkets.

Choice A is incorrect. For this region in **2016**, this is how much greater the average number of store employees was in department stores than in supermarkets.

Choice B is incorrect. For this region in **2016**, this is how much greater the average number of store employees was in warehouse stores than in department stores.

Choice D is incorrect. For this region in **2016**, this is the sum of the average number of store employees in warehouse stores and in supermarkets.

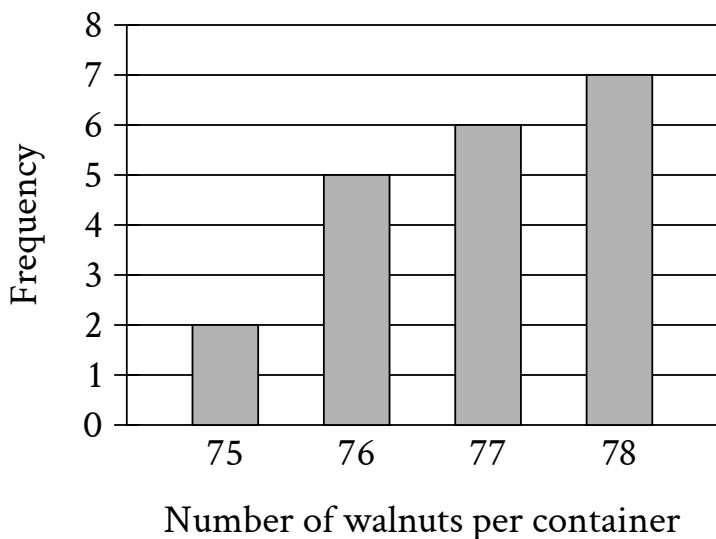
Question Difficulty: Easy

Question ID 642a02cc

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

ID: 642a02cc

The bar graph shows the distribution of the number of walnuts per container for 20 containers at a grocery store.



How many of these containers of walnuts contain exactly 78 walnuts?

- A. 2
- B. 7
- C. 20
- D. 78

ID: 642a02cc Answer

Correct Answer: B

Rationale

Choice B is correct. The height of each bar in the graph shown represents the number of containers that contain the number of walnuts specified at the bottom of the bar. The bar for 78 walnuts has a height of 7. Therefore, 7 of these containers of walnuts contain exactly 78 walnuts.

Choice A is incorrect. This is the number of containers that contain exactly 75 walnuts, not 78 walnuts.

Choice C is incorrect. This is the total number of containers of walnuts represented in the bar graph, not the number that contain exactly **78** walnuts.

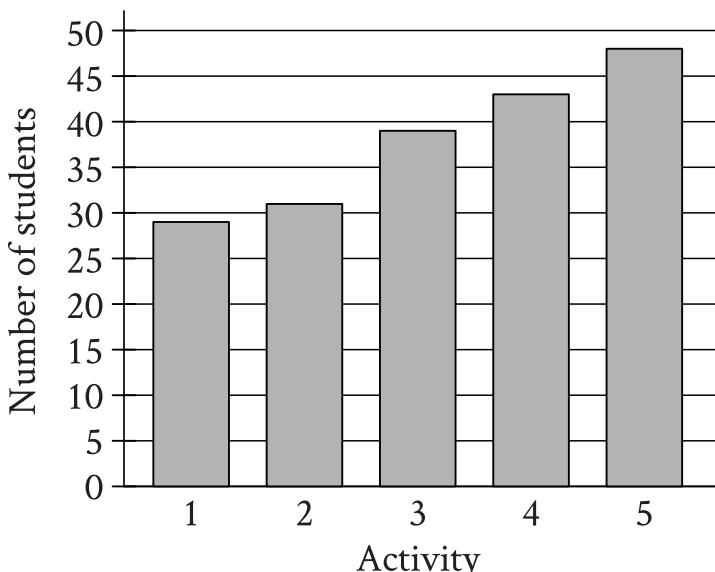
Choice D is incorrect. This is the number of walnuts in a container that contains exactly **78** walnuts, not the number of containers that contain exactly **78** walnuts.

Question Difficulty: Easy

Question ID a914defa

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

ID: a914defa



A group of students voted on five after-school activities. The bar graph shows the number of students who voted for each of the five activities. How many students chose activity 3?

- A. 25
- B. 39
- C. 48
- D. 50

ID: a914defa Answer

Correct Answer: B

Rationale

Choice B is correct. The height of each bar in the bar graph given represents the number of students that voted for the activity specified at the bottom of the bar. The bar for activity 3 has a height that is between 35 and 40. In other words, the number of students that chose activity 3 is between 35 students and 40 students. Of the given choices, 39 is the only value between 35 and 40. Therefore, 39 students chose activity 3.

Choice A is incorrect and may result from conceptual errors.

Choice C is incorrect. This is the number of students that chose activity 5, not activity 3.

Choice D is incorrect and may result from conceptual errors.

Question Difficulty: Easy

Question ID 362aaa23

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

ID: 362aaa23

Data set X: 5, 9, 9, 13

Data set Y: 5, 9, 9, 13, 27

The lists give the values in data sets X and Y. Which statement correctly compares the mean of data set X and the mean of data set Y?

- A. The mean of data set X is greater than the mean of data set Y.
- B. The mean of data set X is less than the mean of data set Y.
- C. The means of data set X and data set Y are equal.
- D. There is not enough information to compare the means.

ID: 362aaa23 Answer

Correct Answer: B

Rationale

Choice B is correct. The mean of a data set is the sum of the values in the data set divided by the number of values in the data set. It follows that the mean of data set X is $\frac{5+9+9+13}{4}$, or 9, and the mean of data set Y is $\frac{5+9+9+13+27}{5}$, or 12.6. Since 9 is less than 12.6, the mean of data set X is less than the mean of data set Y.

Alternate approach: Data set Y consists of the 4 values in data set X and one additional value, 27. Since the additional value, 27, is larger than any value in data set X, the mean of data set X is less than the mean of data set Y.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

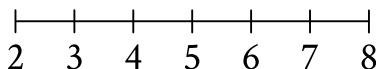
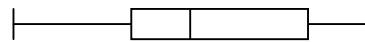
Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 77611205

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

ID: 77611205



The box plot summarizes **15** data values. What is the median of this data set?

- A. 2
- B. 3
- C. 5
- D. 8

ID: 77611205 Answer

Correct Answer: C

Rationale

Choice C is correct. The median of a data set represented in a box plot is given by the vertical line within the box. In the given box plot, the vertical line within the box occurs at **5**. Therefore, the median of this data set is **5**.

Choice A is incorrect. This is the minimum value of the data set.

Choice B is incorrect and may result from conceptual errors.

Choice D is incorrect. This is the maximum value of the data set.

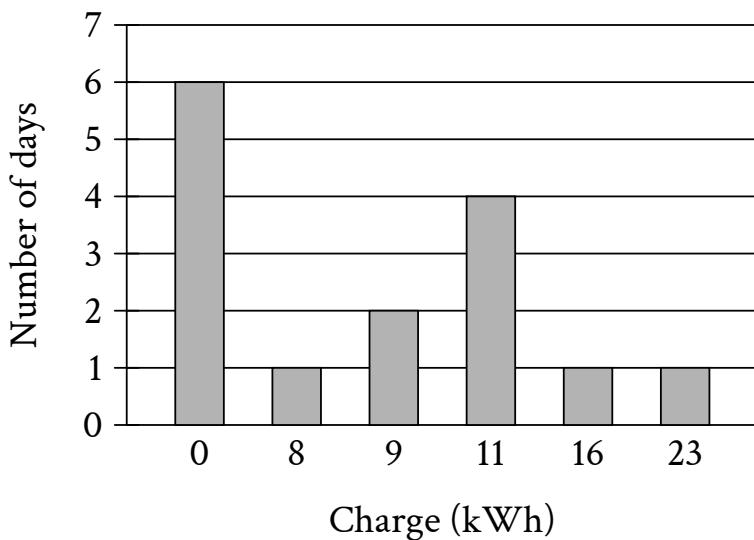
Question Difficulty: Easy

Question ID bec79537

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

ID: bec79537

The bar graph summarizes the charge, in kilowatt-hours (**kWh**), a battery received each day for **15** days.



For how many of these **15** days did the battery receive a charge of **0 kWh**?

- A. 0
- B. 1
- C. 4
- D. 6

ID: bec79537 Answer

Correct Answer: D

Rationale

Choice D is correct. It's given that the bar graph summarizes the charge, in kilowatt-hours (**kWh**), a battery received each day for **15** days. The height of each bar in the bar graph shown represents the number of days the battery received the charge, in **kWh**, specified at the bottom of the bar. The bar for a charge of **0 kWh** reaches a height of **6**. Therefore, the battery received a charge of **0 kWh** for **6** of these days.

Choice A is incorrect. This is the charge, in **kWh**, that the battery received, not the number of days the battery received this charge.

Choice B is incorrect. This is the number of days the battery received a charge of either **8, 16, or 23 kWh**.

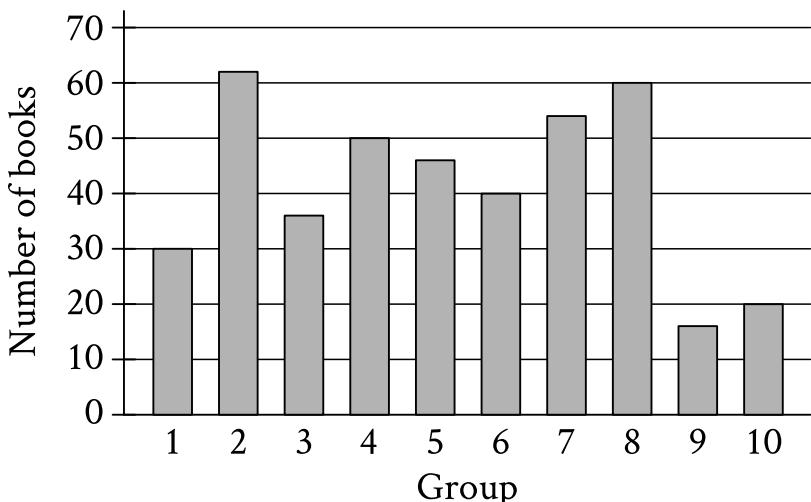
Choice C is incorrect. This is the number of days the battery received a charge of **11 kWh**.

Question Difficulty: Easy

Question ID 5c216e8e

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

ID: 5c216e8e



The bar graph shows the distribution of 414 books collected by 10 different groups for a book drive. How many books were collected by group 1?

ID: 5c216e8e Answer

Correct Answer: 30

Rationale

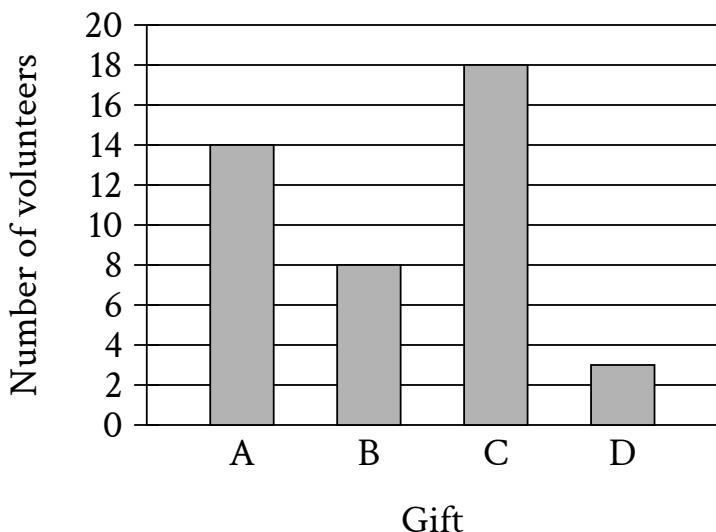
The correct answer is 30. The height of each bar in the bar graph shown represents the number of books collected by the group specified at the bottom of the bar. The bar for group 1 reaches a height of 30. Therefore, group 1 collected 30 books.

Question Difficulty: Easy

Question ID 93aef3fa

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

ID: 93aef3fa



In April, there were **43** volunteers in a cleanup project. Each volunteer was asked to choose a small gift labeled A, B, C, or D. The bar graph shows the number of volunteers who chose each gift. How many volunteers chose gift C?

- A. **3**
- B. **8**
- C. **14**
- D. **18**

ID: 93aef3fa Answer

Correct Answer: D

Rationale

Choice D is correct. The height of each bar in the graph shown represents the number of volunteers who chose the gift labeled with the letter specified at the bottom of the bar. The bar for gift C has a height of **18**. Therefore, **18** volunteers chose gift C.

Choice A is incorrect. This is the number of volunteers who chose gift D, not gift C.

Choice B is incorrect. This is the number of volunteers who chose gift B, not gift C.

Choice C is incorrect. This is the number of volunteers who chose gift A, not gift C.

Question Difficulty: Easy

Question ID f66febb9

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

ID: f66febb9

4, 4, 4, 4, 8, 8, 8, 13, 13

Which frequency table correctly represents the data listed?

A.

Number	Frequency
4	4
8	3
13	2

B.

Number	Frequency
4	4
3	8
2	13

C.

Number	Frequency
4	16
8	24
13	26

D.

Number	Frequency
16	4
24	8
26	13

ID: f66febb9 Answer

Correct Answer: A

Rationale

Choice A is correct. A frequency table is a table that lists the data value and shows the number of times the data value occurs. In the data listed, the number **4** occurs four times, the number **8** occurs three times, and the number **13** occurs two times. This corresponds to the table in choice A.

Choice B is incorrect. This table has the values for number and frequency reversed.

Choice C is incorrect because the frequency values don't represent the data listed.

Choice D is incorrect. This table represents the listed number values as the frequency values.

Question Difficulty: Easy

Question ID 7d0a15b8

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

ID: 7d0a15b8

A list of 10 data values is shown.

6, 8, 16, 4, 17, 26, 8, 5, 5, 5

What is the mean of these data?

ID: 7d0a15b8 Answer

Correct Answer: 10

Rationale

The correct answer is 10. The mean of a data set is calculated by dividing the sum of the data values by the number of data values in the data set. For this data set, the mean can be calculated as $\frac{6+8+16+4+17+26+8+5+5+5}{10}$, which is equivalent to $\frac{100}{10}$, or 10.

Question Difficulty: Easy

Question ID 362eb17d

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

ID: 362eb17d

Each value in the data set shown represents the height, in centimeters, of a plant.

6, 10, 13, 2, 15, 22, 10, 4, 4, 4

What is the mean height, in centimeters, of these plants?

ID: 362eb17d Answer

Correct Answer: 9

Rationale

The correct answer is **9**. The mean of a data set is the sum of the values in the data set divided by the number of values in the data set. It follows that the mean height, in centimeters, of these plants is the sum of the heights, in centimeters, of each plant, $6 + 10 + 13 + 2 + 15 + 22 + 10 + 4 + 4 + 4$, or **90**, divided by the number of plants in the data set, **10**. Therefore, the mean height, in centimeters, of these plants is $\frac{90}{10}$, or **9**.

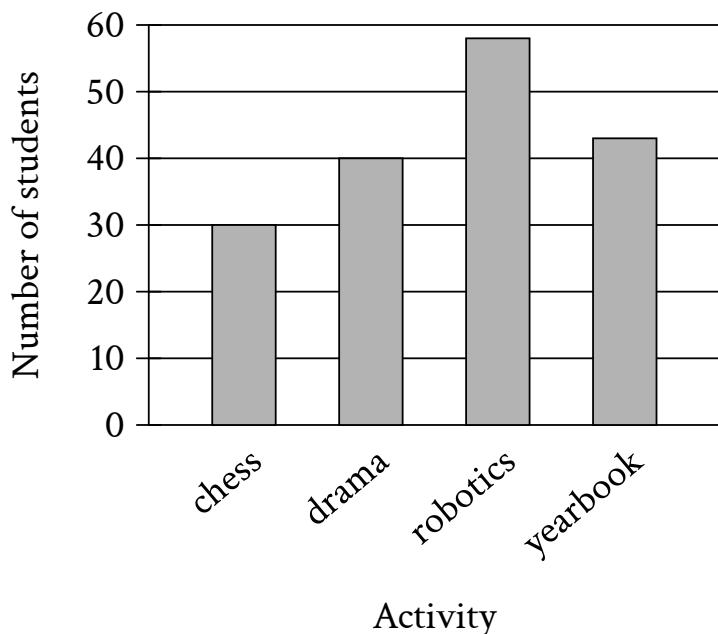
Question Difficulty: Easy

Question ID 600ff5c7

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

ID: 600ff5c7

The bar graph shows the distribution of the number of students in each of four extracurricular activities at a high school.



How many more students are in drama than in chess?

- A. 10
- B. 30
- C. 40
- D. 70

ID: 600ff5c7 Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that the bar graph shows the distribution of the number of students in each of four extracurricular activities at a high school. The bar representing drama has a height of 40; therefore, there are 40 students in

drama. The bar representing chess has a height of **30**; therefore, there are **30** students in chess. Thus, there are **40 – 30**, or **10** more students in drama than in chess.

Choice B is incorrect. This is the number of students in chess.

Choice C is incorrect. This is the number of students in drama.

Choice D is incorrect. This is the sum of the number of students in drama and in chess.

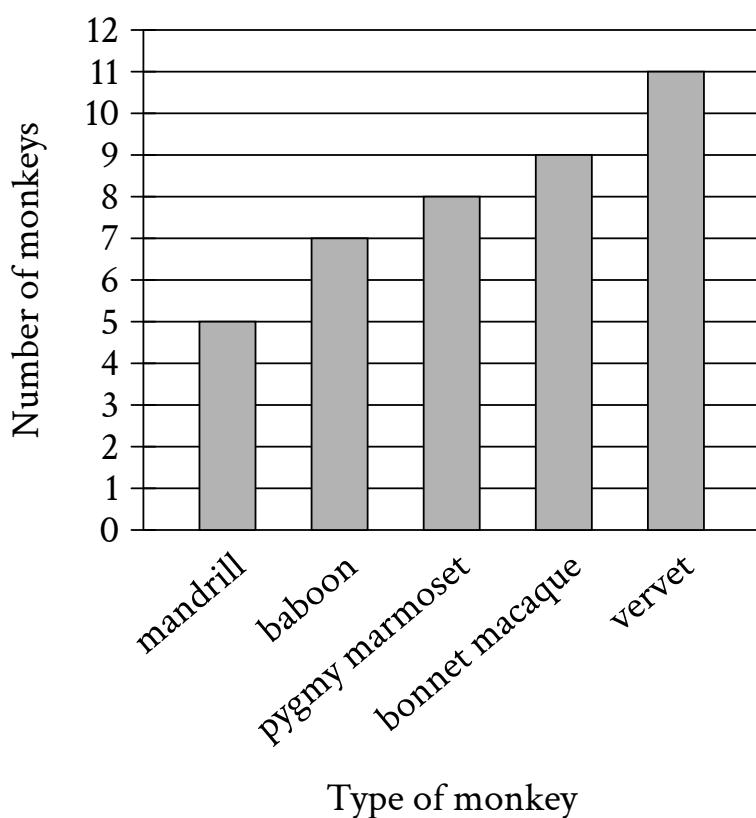
Question Difficulty: Easy

Question ID b93d6b2a

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

ID: b93d6b2a

The bar graph shows the number of each type of monkey in a sanctuary.



How many more vervets are in this sanctuary than mandrills?

- A. 11
- B. 6
- C. 5
- D. 3

ID: b93d6b2a Answer

Correct Answer: B

Rationale

Choice B is correct. It's given that the bar graph shows the number of each type of monkey in a sanctuary. The bar representing the number of mandrills has a height of **5**; therefore, there are **5** mandrills in the sanctuary. The bar representing vervets has a height of **11**; therefore, there are **11** vervets in the sanctuary. Therefore, there are **$11 - 5$, or 6**, more vervets in this sanctuary than mandrills.

Choice A is incorrect. This is the number of vervets in the sanctuary.

Choice C is incorrect. This is the number of mandrills in the sanctuary.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 56ffb2eb

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

ID: 56ffb2eb

Five *Eretmochelys imbricata*, a type of sea turtle, each have a nest. The table shows an original data set of the number of eggs that each turtle laid in its nest.

Nest	Number of eggs
A	149
B	144
C	148
D	136
E	139

A sixth nest with **121** eggs is added to create a new data set. Which of the following correctly compares the means of the two data sets?

- A. The mean of the original data set is greater than the mean of the new data set.
- B. The mean of the original data set is less than the mean of the new data set.
- C. The means of both data sets are equal.
- D. There is not enough information to compare the means.

ID: 56ffb2eb Answer

Correct Answer: A

Rationale

Choice A is correct. It's given that the table shows an original data set of **5** values. It's also given that a sixth value is added to create a new data set. The new data set consists of the **5** values in the original data set and one additional value, **121**. Since the additional value, **121**, is less than any value in the original data set, the mean of the original data set is greater than the mean of the new data set.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID bbbc726e

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

ID: bbbc726e

6, 6, 8, 8, 8, 10, 21

Which of the following lists represents a data set that has the same median as the data set shown?

- A. 4, 6, 6, 6, 8, 8
- B. 6, 6, 8, 8, 10, 10
- C. 6, 8, 10, 10, 10, 12
- D. 8, 8, 10, 10, 21, 21

ID: bbbc726e Answer

Correct Answer: B

Rationale

Choice B is correct. If a data set contains an odd number of data values, the median is represented by the middle data value in the list when the data values are listed in ascending or descending order. Since the data set shown has 7 data values and is in ascending order, it follows that the median is the fourth data value in the list, or 8. If a data set contains an even number of data values, the median is between the two middle data values when the values are listed in ascending or descending order. Since each of the choices consists of a data set with 6 data values in ascending order, it follows that the median is between the third and fourth data value. The third and fourth data values in choice B are 8 and 8. Thus, choice B represents a data set with a median of 8. Since the median of the data set shown is 8 and choice B represents a data set with a median of 8, it follows that choice B represents a data set that has the same median as the data set shown.

Choice A is incorrect. This list represents a data set with a median of 6, not 8.

Choice C is incorrect. This list represents a data set with a median of 10, not 8.

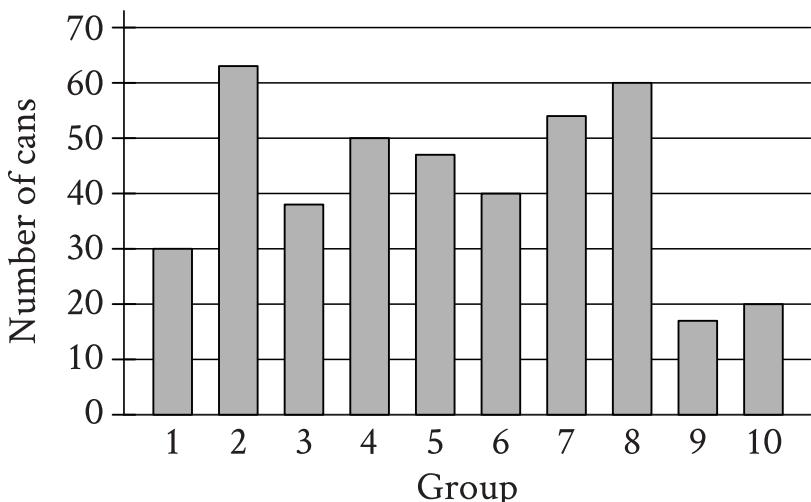
Choice D is incorrect. This list represents a data set with a median of 10, not 8.

Question Difficulty: Easy

Question ID cee00570

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

ID: cee00570



The bar graph shows the distribution of 419 cans collected by 10 different groups for a food drive. How many cans were collected by group 6?

ID: cee00570 Answer

Correct Answer: 40

Rationale

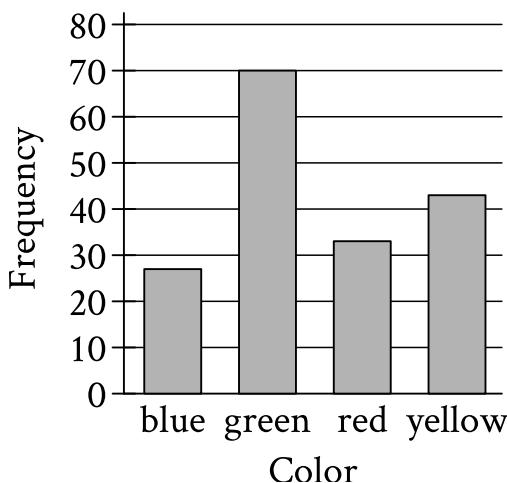
The correct answer is 40. The height of each bar in the bar graph shown represents the number of cans collected by the group specified at the bottom of the bar. The bar for group 6 reaches a height of 40. Therefore, group 6 collected 40 cans.

Question Difficulty: Easy

Question ID bc574cd6

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

ID: bc574cd6



A data set consists of **173** colors. The bar graph shows the number of times each color appears in the data set. Which color appears **70** times?

- A. Blue
- B. Green
- C. Red
- D. Yellow

ID: bc574cd6 Answer

Correct Answer: B

Rationale

Choice B is correct. It's given that a data set consists of **173** colors and the bar graph shows the number of times each color appears in the data set. Therefore, for each color specified at the bottom of the bar, the frequency corresponds to the number of times that color appears in the data set. The color that appears **70** times in the data set has a frequency of **70** on the bar graph. Since the bar with a frequency of **70** corresponds to green, green is the color that appears **70** times.

Choice A is incorrect. The color blue appears about **27** times, not **70** times.

Choice C is incorrect. The color red appears about **33** times, not **70** times.

Choice D is incorrect. The color yellow appears about **43** times, not **70** times.

Question Difficulty: Easy

Question ID 87c015b7

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

ID: 87c015b7

71, 72, 73, 76, 77, 79, 83, 87, 93

What is the median of the data shown?

- A. 71
- B. 77
- C. 78
- D. 79

ID: 87c015b7 Answer

Correct Answer: B

Rationale

Choice B is correct. The median of a data set with an odd number of data values is defined as the middle value of the ordered list of values. The data set shown has nine values, so the median is the fifth value in the ordered list, which is 77.

Choice A is incorrect. This is the minimum value of the data set, not the median.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect. This is the mean of the data set, not the median.

Question Difficulty: Easy

Question ID 12dcd572

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

ID: 12dcd572

2, 9, 14, 23, 32

What is the mean of the data shown?

- A. **14**
- B. **16**
- C. **17**
- D. **32**

ID: 12dcd572 Answer

Correct Answer: B

Rationale

Choice B is correct. The mean of a set of data values is the sum of all the data values divided by the number of data values in the set. The sum of the data values shown is $2 + 9 + 14 + 23 + 32$, or 80. Since there are 5 data values in the set, the mean of the data shown is $\frac{80}{5}$, or 16.

Choice A is incorrect. This is the median, not the mean, of the data shown.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect. This is the maximum, not the mean, of the data shown.

Question Difficulty: Easy