K-12

CCHS-Statistics-Probability

Common Core High School: Statistics and Probability (Common Core State Standards Initiative)

For More Information – Visit link below:

https://www.examsempire.com/

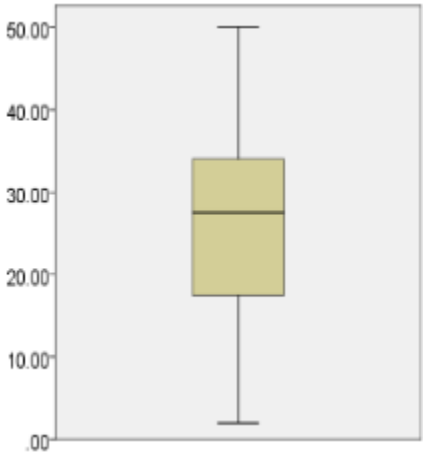
Product Version

1. **Up to Date products, reliable and verified.**
2. **Questions and Answers in PDF Format.**

Latest Version: 6.0

Question: 1

Which data set is represented by the box plot shown below?



A. 2, 3, 6, 9, 15, 20, 24, 25, 26, 27, 28, 29, 30, 30, 33, 35, 37, 39, 46, 50
B. 1, 6, 6, 7, 10, 14, 14, 19, 20, 21, 24, 28, 35, 37, 38, 39, 41, 44, 44,45
C. 3, 3, 9, 10, 11, 12, 19, 20, 22, 23, 24, 24, 25, 28, 28, 30, 33, 36, 38, 45
D. 5, 6, 10, 11, 15, 16, 18, 23, 25, 2328, 31, 35, 36, 37, 45

Answer: A

Explanation:
The data shown for Choice A has a minimum of 2, maximum of 50, median of 27.5, first quartile of 17.5, and third quartile of 34. The given box plot represents each of these values.

Question: 2

Given the stem-and-leaf lot shown below, which of the follow in statements is true?

Data Set A	Stem	Data Set B
1, 1, 8	0	2, 2, 4, 8, 9
4, 5, 5, 8, 9	1	3, 5
0, 1, 4, 7, 8, 9	2	3, 9
	3	1, 6
	4	0, 0, 2
0	5	0

A. Data set A shows a larger center and more variability.
B. Data set A shows a larger center and less variability.
C. Data set A shows a smaller center and more variability.

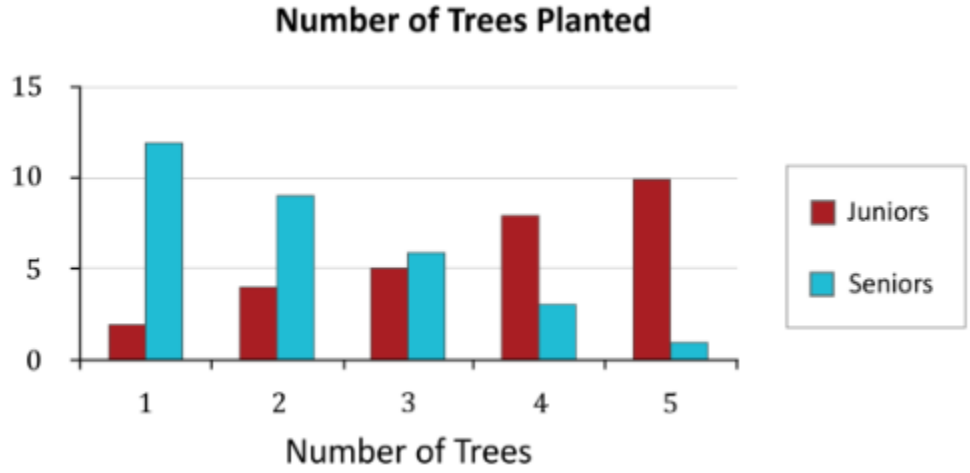
D. Data set A shows a smaller center and less variability.

Answer: D

Explanation:
Data set B has a larger center because there are more high scores. Data set A shows less variability, due to the clustering of scores between 1 and 29.

Question: 3

Given the double bar graph shown below, which of the following statements is true?



A. The number of trees planted by the juniors is positively skewed, while the number of trees planted by the seniors is approximately normal.
B. The number of trees planted by the juniors is negatively skewed, while the number of trees planted by the seniors is positively skewed.
C. The number of trees planted by the juniors is positively skewed, while the number of trees planted by the seniors is negatively skewed.
D. The number of trees planted by the juniors is approximately normal, while the number of trees planted by the juniors is positively skewed.

Answer: B

Explanation:
The number of trees planted by the juniors is skewed left, with more higher numbers of trees planted. The number of trees planted by the seniors is skewed right, with more individuals with lower numbers of trees planted.

Question: 4

The numbers of volunteers in different states are shown in the table below. Which of the following statements is true?

Texas	8	17	18	19	20	21	21	21	22	28	29	31	41	45	48
New Mexico	7	11	15	29	30	30	31	33	34	36	37	42	44	44	45

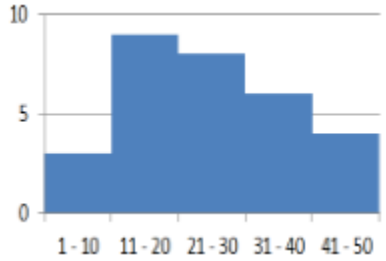
A. The numbers of volunteers in Texas have a greater median and mean.
B. The numbers of volunteers in Texas have a greater median and a smaller mean.
C. The numbers of volunteers in Texas have a smaller median and mean.
D. The numbers of volunteers in Texas have a smaller median and a greater mean.

Answer: C

Explanation:
The median number of volunteers in Texas is 21, with a mean of approximately 25.9. The median number of volunteers in New Mexico is 33, with a mean of approximately 31.2. Thus, the median and mean numbers of volunteers in Texas are smaller.

Question: 5

Which frequency table is represented by the histogram shown below?



a.

Interval	Frequency
1 – 10	3
11 – 20	9
21 – 30	8
31 – 40	6
41 – 50	4

c.

Interval	Frequency
1 – 10	3
11 – 20	9
21 – 30	8
31 – 40	5
41 – 50	4

b.

Interval	Frequency
1 – 10	3
11 – 20	8
21 – 30	8
31 – 40	6
41 – 50	3

d.

Interval	Frequency
1 – 10	2
11 – 20	9
21 – 30	8
31 – 40	6
41 – 50	4

A. Option A
B. Option B
C. Option C
D. Option D

Answer: A

Explanation:
The frequency table for Choice A correctly shows the frequencies represented by the histogram. The frequencies of values, falling between I and 10 is 3, between II and 20 is 9, between 21 and 30 is 8, between 31 and 40 is 6, and between 41 and 50 is 4.

Question: 6

Which of the following measures is unaffected by a skewed distribution?

A. mean
B. median
C. standard deviation
D. range

Answer: B

Explanation:
The median is unaffected by a skewed distribution (i.e., by extreme outliers). The median represents the value that 50 percent of the scores fall above and 50 percent of the scores fall below. The mean, standard deviation, and range are all impacted by non-normal data.

Question: 7

Suppose data are normally distributed. Which of the following best represents the area under the curve, to the right of a z-score of 2.18?

A. 0.01
B. 0.03
C. 0.04
D. 0.06

Answer: A

Explanation:
Using a standard z-table, the area from the mean to z is shown to be 0.4854. This area should be subtracted from 0.5 in order to show the area to the right of a z-score of 2.18. Thus, the area to the right of the z-score is 0.0146, or approximately 0.01. A z-table, including the smaller portion of area under a curve may also be used. This area is reported as 0.0146.

Question: 8

Suppose data are normally distributed. Which of the following best represents the area under the curve, to the left of a z-score of 1.6?

A. 0.87
B. 0.90
C. 0.92
D. 0.95

Answer: D

Explanation:
Using a standard z-table, the area from the mean to z is shown to be 0.4452. This area should be added to 0.5 in order to show the area to the left of a z-score of 1.6. Thus, the area to the left of the z-score is 0.9452, or approximately 0.95. A z-table, including the larger portion of area under a curve may also be used. This area is reported as 0.9452.

Question: 9

Which of the following represents the area under the curve of a normal distribution, falling between the z-scores of 1.3 and 2.9?

A. 0.09
B. 0.21
C. 0.63
D. 0.90

Answer: A

Explanation:
A standard z-table shows an area of 0.4032 between the mean and a z-score of 1.3. It also shows an area of 0.4981 between the mean and a z-score of 2.9. The difference of the two areas is 0.0949. Thus, the area between the two z-scores is approximately 9%. Using a table that reports the mean to z, the mean-to-z area for a z-score of 1.3 may be subtracted from the mean-to-z area for a z-score of 2.9.

Question: 10

Given the table shown below, what is the probability that a student is a Democrat or prefers math?

	History	Science	Math	Total
Democrat	13	30	37	80
Republican	20	38	12	70
Total	33	68	49	150

A. $\frac{129}{150}$
B. $\frac{46}{75}$
C. $\frac{37}{150}$

D. $\frac{37}{80}$

Answer: B

Explanation:

The probability may be written as $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B) = \frac{80}{150} + \frac{49}{150} - \frac{37}{150}$, which simplifies to $P(A \text{ or } B) = \frac{46}{75}$.

Thank You for Trying Our Product

Special 16 USD Discount Coupon: NSZUBG3X

Email: support@examsempire.com

Check our Customer Testimonials and ratings available on every product page.

Visit our website.

https://examsempire.com/