THIRD SPACE LEARNING

Quartile Worksheet

Statistics and Probability

Grades 6 to 8

Skill Questions

Name: .....

Date: .....

1 Fill in the blank to complete the sentence.

A quartile divides an ordered data set into _____ equal parts.

Answer

2 Find the lower quartile (Q1) of the data set.

12,7,19,25,30,8,15,22,27,10,16,23,18,14,20

Answer

3 Find the median (Q2) of the data set.

12,7,19,25,30,8,15,22,27,10,16,23,18,14,20

Answer

4 Find the upper quartile (Q3) of the data set.

12,7,19,25,30,8,15,22,27,10,16,23,18,14,20

Answer

5 Find the lower quartile (Q1) of the data set.

29.3, 42, 46.3, 41.2, 48, 36.6, 36.8, 31, 32.7, 35

Answer

6 Find the median (Q2) of the data set.

29.3, 42, 46.3, 41.2, 48, 36.6, 36.8, 31, 32.7, 35

Answer

7 Find the upper quartile (Q3) of the data set.

29.3, 42, 46.3, 41.2, 48, 36.6, 36.8, 31, 32.7, 35

Answer

8 The stem and leaf plot represents the results of a 6th grade math test taken by 20 students.

	Test Score
6	7 8
7	0 2 3 7 8 9
8	1 2 5 5 6 8 8 9
9	0 2 4 5

Key : 7 | 2 means a score of 72

Find the lower quartile (Q1) of the data set.

Answer

9 The stem and leaf plot represents the results of a 6th grade math test taken by 20 students.

	Test Score
6	7 8
7	0 2 3 7 8 9
8	1 2 5 5 6 8 8 9
9	0 2 4 5

Key : 7 | 2 means a score of 72

Find the median (Q2) of the data set.

Answer

10 The stem and leaf plot represents the results of a 6th grade math test taken by 20 students.

	Test Score
6	7 8
7	0 2 3 7 8 9
8	1 2 5 5 6 8 8 9
9	0 2 4 5

Key : 7 | 2 means a score of 72

Find the upper quartile (Q3) of the data set.

Answer

Applied Questions

11 In a town, the ages of residents (in years) are as follows: 18, 20, 21, 22, 25, 26, 28, 30, 32, 35, 36, 38, 40, 42, 45, 47, 50, 52, 55, 58, 60

Calculate the quartiles for the ages of the residents and explain what each quartile indicates about the age distribution in the town.

Answer

12 A group of friends recorded the distances (in miles) they traveled on their bikes in a week:

15, 18, 25, 32, 35, 43, 44, 50, 55, 64, 68, 71, 75, 82, 85

Determine the quartiles for these distances and explain what they represent, as well as what they reveal about the biking habits of the group.

Answer

13 These temperatures represent the daily high temperatures recorded in a city during the month of July.

85°, 88°, 90°, 92°, 89°, 86°, 84°, 87°, 91°, 93°

The interquartile range (IQR) is the range between the upper and lower quartiles.

Find the interquartile range (IQR) of the data set.

Answer

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14 The data set represents math test scores.

Matthew says his score is between the median and the upper quartile.

Which scores could be Matthew's? Explain.

78, 85, 92, 65, 70, 88, 81, 75, 90, 84, 79, 95, 72, 87, 93

Answer

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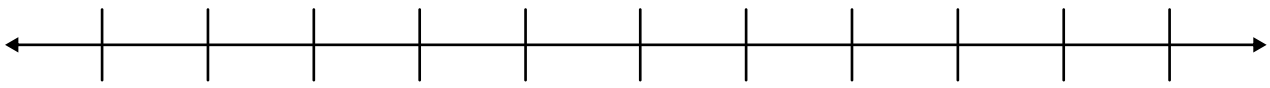
15 The data set represents the monthly spending of 20 students (in dollars)
45, 50, 52, 54, 58, 60, 62, 65, 68, 70, 72, 75, 78, 80, 82, 85, 88, 90, 92, 95

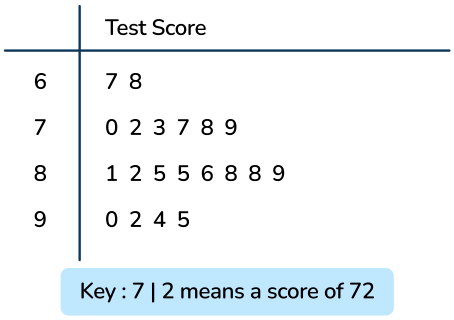
Create a box plot to represent the data set.



Answers

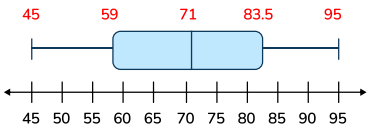
Question number	Question	Answers	Standard
1	Fill in the blank to complete the sentence. A quartile divides an ordered data set into _____ equal parts.	4	6.SP.B.4
2	Find the lower quartile (Q1) of the data set. 12,7,19,25,30,8,15,22,27,10,16,23, 18,14,20	Q1 = 12	6.SP.B.4
3	Find the median (Q2) of the data set. 12,7,19,25,30,8,15,22,27,10,16,23, 18,14,20	M = 18	6.SP.B.4
4	Find the upper quartile (Q3) of the data set. 12,7,19,25,30,8,15,22,27,10,16,23, 18,14,20	Q3 = 23	6.SP.B.4
5	Find the lower quartile (Q1) of the data set. 29.3, 42, 46.3, 41.2, 48, 36.6, 36.8, 31, 32.7, 35	Q1 = 32.7	6.SP.B.4
6	Find the median (Q2) of the data set. 29.3, 42, 46.3, 41.2, 48, 36.6, 36.8, 31, 32.7, 35	Q1 = 36.7	6.SP.B.4

Question number	Question	Answers	Standard
7	Find the upper quartile (Q3) of the data set. 29.3, 42, 46.3, 41.2, 48, 36.6, 36.8, 31, 32.7, 35	Q3 = 42	6.SP.B.4
8	The stem and leaf plot represents the results of a 6th grade math test taken by 20 students. Test Score 6 | 7 8 7 | 0 2 3 7 8 9 8 | 1 2 5 5 6 8 8 9 9 | 0 2 4 5 Key : 7 | 2 means a score of 72 Find the lower quartile (Q1) of the data set.	Q1 = 75	6.SP.B.4
9	The stem and leaf plot represents the results of a 6th grade math test taken by 20 students. Test Score 6 | 7 8 7 | 0 2 3 7 8 9 8 | 1 2 5 5 6 8 8 9 9 | 0 2 4 5 Key : 7 | 2 means a score of 72 Find the median (Q2) of the data set.	Q2 = 83.5	6.SP.B.4

Question number	Question	Answers	Standard
10	The stem and leaf plot represents the results of a 6th grade math test taken by 20 students.  Find the upper quartile (Q3) of the data set.	Q3 = 88.5	6.SP.B.4

Question number	Question	Answers	Standard
11	In a town, the ages of residents (in years) are as follows: 18, 20, 21, 22, 25, 26, 28, 30, 32, 35, 36, 38, 40, 42, 45, 47, 50, 52, 55, 58, 60 Calculate the quartiles for the ages of the residents and explain what each quartile indicates about the age distribution in the town.	Q1 = 25.5 years Q2 = 36 years Q3 = 48.5 years Q1 represents the age at which 25% of the residents are younger. In this case, it's 25.5 years. This indicates that a quarter of the residents in the town are below the age of 25.5. Q2 represents the median age of the residents. Half of the residents are younger than 36 years and the other half are older. Q3 represents the age at which 25% of the residents are older. In this case, it's 48.5 years. This indicates that a quarter of the residents in the town are above the age of 48.5.	6.SP.B.4

Question number	Question	Answers	Standard
12	A group of friends recorded the distances (in miles) they traveled on their bikes in a week: 15, 18, 25, 32, 35, 43, 44, 50, 55, 64, 68, 71, 75, 82, 85 Determine the quartiles for these distances and explain what they represent, as well as what they reveal about the biking habits of the group.	Q1 = 32 miles Q2 = 50 miles Q3 = 71 miles Q1: This means that 25% of the friends rode 32 miles or less. Q2: This is the median score, meaning that 50% of the friends rode less than 50 miles and 50% rode more than 50 miles. Q3: This means that 75% of the friends rode less than 71 miles and 25% of them rode more than 71 miles. This suggests that there is a range of biking habits within the group, with some members biking shorter distances and others biking longer distances.	6.SP.B.4

Question number	Question	Answers	Standard
13	These temperatures represent the daily high temperatures recorded in a city during the month of July. 85°, 88°, 90°, 92°, 89°, 86°, 84°, 87°, 91°, 93° The interquartile range (IQR) is the range between the upper and lower quartiles. Find the interquartile range (IQR) of the data set.	IQR = 5°	6.SP.B.4
14	The data set represents math test scores. Matthew says his score is between the median and the upper quartile. Which scores could be Matthew's? Explain. 78, 85, 92, 65, 70, 88, 81, 75, 90, 84, 79, 95, 72, 87, 93	Q2 (median) = 84 Q3 (upper quartile) = 90 So if Matthew's score falls between those two numbers, his score could be 85, 87, or 88.	6.SP.B.4
1	The data set represents math test scores. Matthew says his score is between the median and the upper quartile. Which scores could be Matthew's? Explain. 78, 85, 92, 65, 70, 88, 81, 75, 90, 84, 79, 95, 72, 87, 93		6.SP.B.4

Do you have a group of students who need a boost in math?

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