LESSON MAKER PRO

Box Plot Detectives

Read five values and describe the spread.

GRADE 6 · MA.6.DP.1.3

MA.6.DP.1.3 "Given a box plot within a real-world context, determine the minimum, the lower quartile, the median, the upper quartile and the maximum. Use this summary of the data to describe the spread and distribution of the data."

NAME _____ DATE _____

READ THE PLOT

In a box plot, read from left to right: minimum, lower quartile, median, upper quartile, maximum. The box holds the middle 50%, so range = maximum - minimum and IQR = upper quartile - lower quartile.

WORKED EXAMPLE

Box plot: 41 - [45 | 49 | 54] - 60. Find the five-number summary, range, and IQR.

1. Read left to right: 41, 45, 49, 54, 60.
2. Range: 60 - 41 = 19.
3. IQR: 54 - 45 = 9.

Answer: Minimum 41, Q1 45, median 49, Q3 54, maximum 60; range 19; IQR 9.

PRACTICE 5 problems

1 Box plot: 0 - [3 | 6 | 11] - 19. Give the five-number summary.

ANSWER _____

2 Box plot: 2 - [7 | 10 | 16] - 24. What interval contains the middle 50%?

ANSWER _____

3 Box plot: 4 - [9 | 13 | 18] - 26. Find the range and IQR.

ANSWER _____

4 Which plot has the greater IQR? A: 5 - [8 | 14 | 20] - 29. B: 1 - [6 | 13 | 17] - 25.

ANSWER _____

5 Box plot: 3 - [4 | 9 | 12] - 28. Is the data more spread below or above the median?

ANSWER _____

APPLY IT Show your work

1 An esports club tracked minutes played by members in one week. Box plot: 6 - [11 | 15 | 21] - 30. Find the five-number summary, range, IQR, and the side with more spread.

WORK SPACE

ANSWER _____

2 A gaming club tracked levels completed during a weekend. Box plot: 0 - [2 | 5 | 8] - 12. What is the middle-50% interval, IQR, range, and side with more spread?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Two fitness teams recorded daily step goals reached. A: 2 - [7 | 10 | 15] - 19. B: 4 - [8 | 10 | 13] - 18. Which team was more consistent? Use both range and IQR.

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_____

ANSWER KEY

Box Plot Detectives

GRADE 6 · MA.6.DP.1.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Box plot: 0 - [3 | 6 | 11] - 19. Give the five-number summary.	**Minimum 0, Q1 3, median 6, Q3 11, maximum 19.**
2	Box plot: 2 - [7 | 10 | 16] - 24. What interval contains the middle 50%?	**7 to 16.**
3	Box plot: 4 - [9 | 13 | 18] - 26. Find the range and IQR.	**Range 22; IQR 9.**
4	Which plot has the greater IQR? A: 5 - [8 | 14 | 20] - 29. B: 1 - [6 | 13 | 17] - 25.	**Plot A. Its IQR is 12, while Plot B's IQR is 11.**
5	Box plot: 3 - [4 | 9 | 12] - 28. Is the data more spread below or above the median?	**Above the median, because 28 - 9 is greater than 9 - 3.**

PART 2 · APPLY IT

1. **Minimum 6, Q1 11, median 15, Q3 21, maximum 30; range 24; IQR 10; more spread above the median.** Read the five values from left to right. Compare 15 - 6 = 9 with 30 - 15 = 15.
2. **Middle 50%: 2 to 8; IQR 6; range 12; more spread above the median.** Subtract 2 from 8 for the IQR and 0 from 12 for the range. Compare the distance from the median to each end.

CHALLENGE

Team B. Its range is 14 and its IQR is 5, compared with Team A's range of 17 and IQR of 8.

Accept Q1 and Q3 for lower and upper quartile. For spread descriptions, accept equivalent statements such as “more spread on the high end.”