MSTAR PRACTICE WORKSHEET

Lesson 2-4: Represent and Describe Data in a Box Plot

Grade 6 Mathematics · Standard 6.DS.5

Name: _____ Date: _____

These are MSTAR-style questions written for this curriculum to rehearse the format. They are not official Maryland assessment items. MSTAR — Maryland's new state test, first given in spring 2027 — uses the same kinds of questions you see here: selected response, select-all, two-part evidence questions, and written responses.

Part A — Skills Check

Warm up with the lesson's core skills — one best answer each.

Question 1 SELECTED RESPONSE · 1 POINT

A box plot shows: Min = 10, Q1 = 15, Median = 20, Q3 = 28, Max = 35. What is the interquartile range (IQR)?

(A) 10

(B) 13

(C) 20

(D) 25

Question 2 SELECTED RESPONSE · 1 POINT

On a box plot, what does the line inside the box represent?

(A) The median

(B) The mean

(C) The mode

(D) The range

Question 3 SELECTED RESPONSE · 1 POINT

What percentage of data falls between Q1 and Q3 on a box plot?

(A) 25%

(B) 50%

(C) 75%

(D) 100%

Question 4 SELECTED RESPONSE · 1 POINT

Find the range of: 14, 22, 8, 31, 17

(A) 8

(B) 18

(C) 23

(D) 31

Question 5 SELECTED RESPONSE · 1 POINT

Two box plots show: Team A has IQR = 8, Team B has IQR = 22. What does this tell you?

(A) Team A's middle 50% is more consistent; Team B's is more spread out

(B) Team B is a better team

(C) Team A has a higher median

(D) The IQRs don't tell you about consistency

Question 6 SELECTED RESPONSE · 1 POINT

The Hawks' points per quarter are 2, 4, 5, 7, 8, 10, 12. Resting on the scoreboard, what are the minimum, median, and maximum?

(A) Minimum 0, median 7, maximum 12

(B) Minimum 2, median 7, maximum 12

(C) Minimum 2, median 5, maximum 12

(D) Minimum 2, median 8, maximum 10

Part B — Test-Format Questions

These match the state test's formats: two-part questions, select-all, and written responses.

Question 7 TWO-PART QUESTION

Part A

A box plot has a 5-number summary of minimum 4, Q1 = 8, median 12, Q3 = 18, maximum 24. What is the interquartile range?

Fill in the bubble next to the one best answer.

(A) 6

(B) 10

(C) 12

(D) 20

Part B

Answer Part A before Part B — Part B asks about your reasoning.

What does the box itself represent in a box plot?

(A) All of the data from minimum to maximum.

(B) The mean of the data set.

(C) The middle 50% of the data, from Q1 to Q3.

(D) The values that occur most often.

Question 8 SELECT ALL THAT APPLY

Select ALL statements that are true about box plots:

Mark the box next to EVERY answer that is true. More than one is correct.

[A] The 5-number summary is minimum, Q1, median, Q3, and maximum.

[B] The box spans from Q1 to Q3.

[C] The line inside the box is the median.

[D] The whiskers show the mean of each half.

[E] IQR = Q3 − Q1.

Part C — Show Your Thinking

Answer in writing, the way the state test's constructed responses work.

Question 9 WRITTEN RESPONSE · 2 POINTS

Two basketball teams played 9 games each. Team A: 40, 42, 44, 46, 48, 50, 52, 54, 56. Team B: 30, 35, 40, 45, 48, 50, 55, 60, 65. Find the five-number summary and IQR for each team. Which team is more consistent? Which has a wider spread in the middle 50%?

Write your answer in complete sentences. Show or explain your mathematical thinking.

When you finish, check your reasoning with your teacher or family. Your teacher has the scoring guide for the written responses.