

NWEA Assessment Item Illustrating 6.SP.B.4

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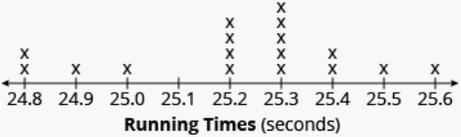
Domain: Statistics and Probability

6.SP.B: Summarize and describe distributions.

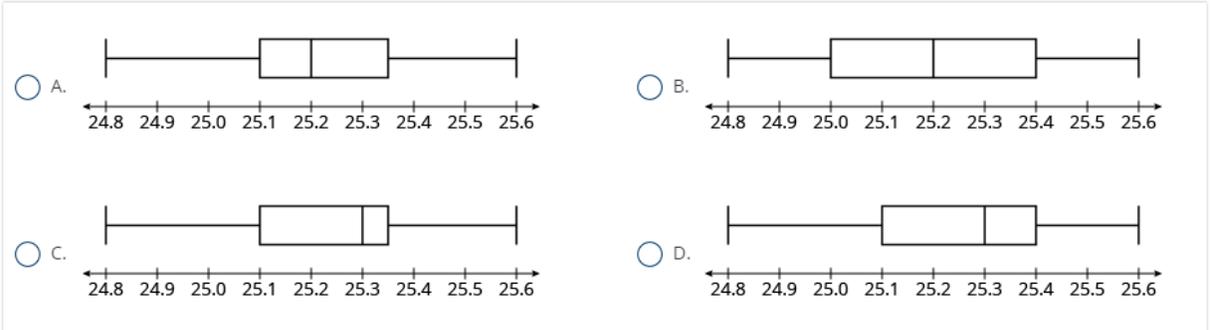
Calculator Availability: Yes

Use the information to answer the question.

Coby runs the 200-meter dash during track meets. The line plot shows 17 of his running times.



Which box plot represents the same data as the line plot?



Alignment: 6.SP.B.4: Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

Interpretation of data displays is an important life skill. Students must interpret the data displayed in the line plot and how that data is translated to a box plot. Students can approach this item in multiple ways. Some students may need to write out the data in an ordered list and calculate the median, first quartile, and third quartile. Other students may rely on counting the x's to find the middle values. A savvy student may focus on the distribution and recognize that the median bar would be closest to the right of the box. Since there is an odd number of data values, the first and second quartiles will be determined using an even number of data values. In this item, the first quartile is not a value in the data set.

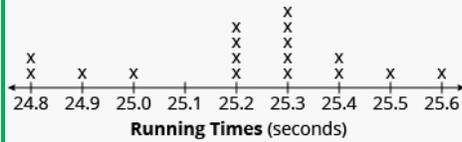
Coherence: In grades 4 and 5, students extended their understanding of the number line to create line plots with whole numbers^{4.MD.B.4} and fractions.^{5.MD.B.2} In grade 6, students extend this knowledge to other representations, including box plots, histograms, and dot plots. This is foundational for the more complex work in high school, in which students will interpret, display, and solve problems with categorical and quantitative data.^{HSS-ID.A}

Rigor: This item attends to conceptual understanding and application. Students must understand the concept of a line plot and how the same data can be displayed in a box plot. While this item includes an application of mathematics in a familiar, real-world scenario, the context itself requires little interpretation.

Answer Key:

Use the information to answer the question.

Coby runs the 200-meter dash during track meets. The line plot shows 17 of his running times.



Which box plot represents the same data as the line plot?

A.

B.

C.

D.

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