Cluster 7.12: Measurement and Data

7.12A: Statistics and Data: Basketball Team Height Data

Focusing TEKS

7.12A Measurement and Data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads. **Readiness Standard**

Additional TEKS:

7.3A Add, subtract, multiply, and divide rational numbers fluently. **Supporting Standard**

7.4D Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems. **Readiness Standard**

6.12C Summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution. **Readiness Standard**

6.13A Interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots. **Readiness Standard**

Focusing Mathematical Process

7.1A Apply mathematics to problems arising in everyday life, society, and the workplace.

7.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.

7.1E Create and use representations to organize, record, and communicate mathematical ideas.

7.1F Analyze mathematical relationships to connect and communicate mathematical ideas.

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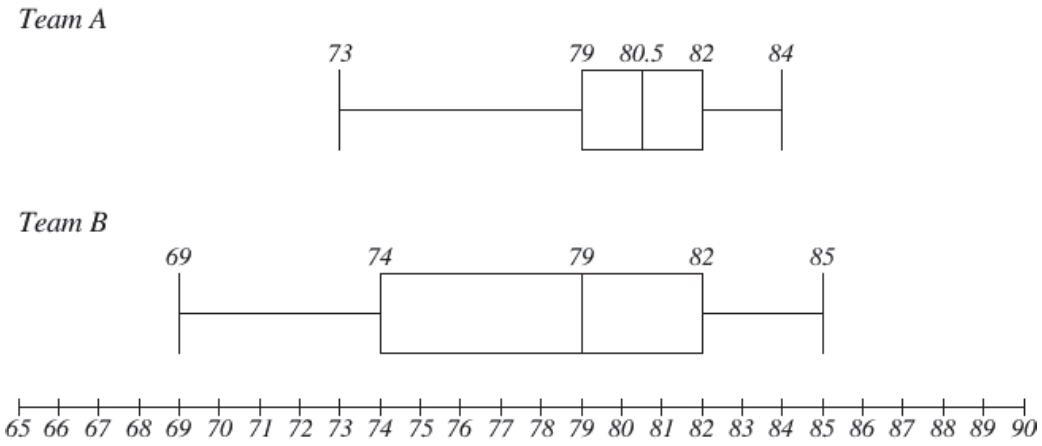
Name _____ Date _____

Performance Task: 7.12A
Statistics and Data: Basketball Team Height Data

The coach at Marshall College compiled information about the heights, in inches, of basket ballplayers as part of the paperwork for an upcoming tournament. The data is shown below.



Both teams at the college have 14 members.

- What are the heights of the tallest and shortest team members across both teams?
- How do the interquartile ranges for the two teams compare?
- What is known about the skewness, or shape of the data for the two sets of heights?
- What is the ratio of the difference in the IQR for the teams to the difference in the range for the teams?

Justify your reasoning.

Procedural	0	1	2
Conceptual	0	1	2
Communication	0	1	2

Total points:_____

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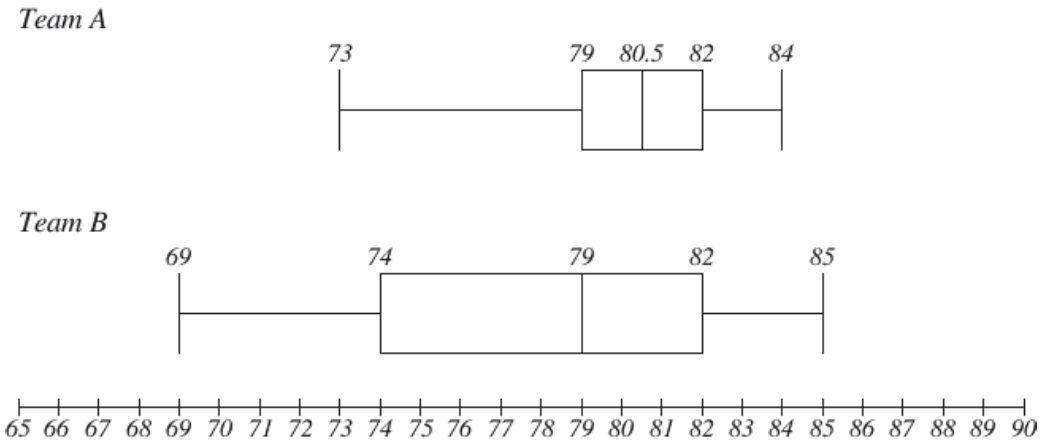

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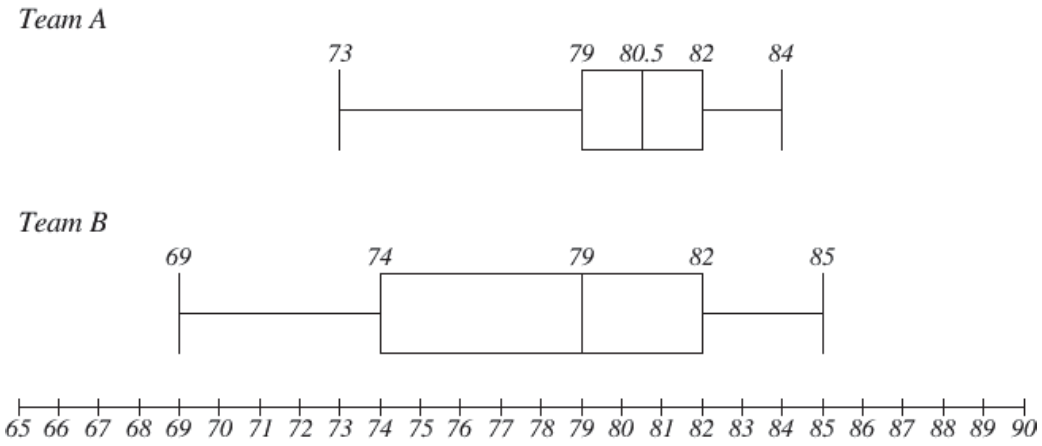

Both teams at the college have 14 members.

- What are the heights of the tallest and shortest team members across both teams?
- How do the interquartile ranges for the two teams compare?
- What is known about the skewness, or shape of the data for the two sets of heights?
- What is the ratio of the difference in the IQR for the teams to the difference in the range for the teams?
- What percent taller is the median player for Team A compared to the median player for Team B?

Justify your reasoning.

Procedural	0	1	2
Conceptual	0	1	2
Communication	0	1	2

Total points:_____

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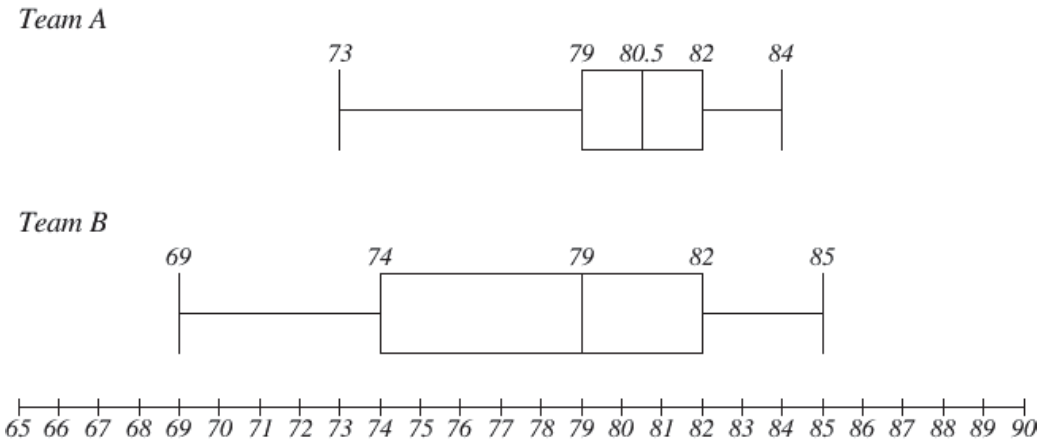

1. What are the minimum and maximum heights for players on Team A?

2. What is the range of the heights on Team A?

3. What is the median height of a player on Team A?

4. What are the Q1 and Q3 values for heights of players on Team A?

5. What is the IQR of heights on Team A?

6. Looking at the box for Team A, is the data skewed left, skewed right, or symmetrical? Explain how you know.

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7. What are the minimum and maximum heights for players on Team B?

8. What is the range of the heights on Team B?

9. What is the median height of a player on Team B?

10. What are the Q1 and Q3 values for heights of players on Team B?

11. What is the IQR of heights on Team B?

12. Looking at the box for Team B, is the data skewed left, skewed right, or symmetrical? Explain how you know.

13. What are the heights of the tallest and shortest team members across both teams?

14. How do the interquartile ranges for the two teams compare?

15. What is known about the skewness, or shape of the data for the two sets of heights?

16. What is the ratio of the difference in the IQR for the teams to the difference in the range for the teams?

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