

Name _____

Date _____ Pd. _____

Notes: Box and Whisker Plots

Box-and-Whisker Plots A _____ displays the extremes, the quartiles, and the median for a set of data. The length of the box represents the interquartile range. A vertical line inside the box represents the median. Horizontal lines (whiskers) represent the lower and upper fourths of the data. The bullets at each end are the **extreme values**.

Example

Draw a box-and-whisker plot for the following data.

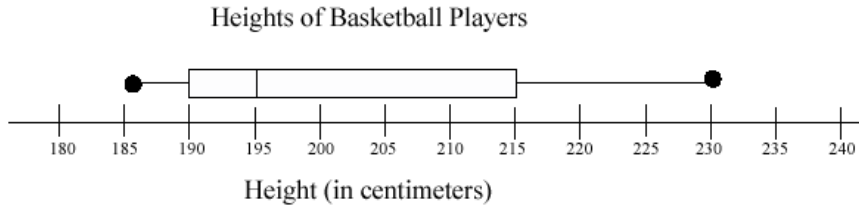
3, 7, 9, 14, 16, 19, 19, 25, 28

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Exit Card: Box and Whisker Plots

The box-and-whiskers plot below summarizes the heights of basketball players.

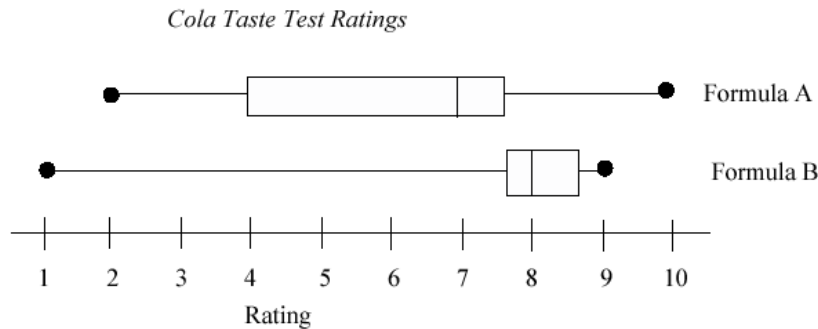


Which of the following statements is true?

- F. The mean height is less than the median height.
- G. The mean height is greater than the median height.
- H. The mean height is equal to the median height.
- J. There is not enough information to compare the mean and median.

ECR

A soda company is creating a new type of cola. It has two formulas for the cola. The company asked 100 randomly selected people to taste the two cola formulas and rate them on a scale of 1 (worst soda I ever tasted) to 10 (best soda I ever tasted). The box-and-whisker plots below show a summary of their ratings.

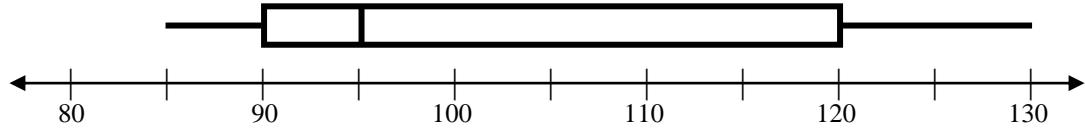


- Which formula had the higher median rating?
- Which formula had the greater variation of ratings? Use mathematics to justify your answer.
- Based on the data shown in the box-and-whisker plots, the president of the company decided that the Formula A was liked better than the Formula B. Is this a valid conclusion from the data given? Use mathematics to justify your answer.

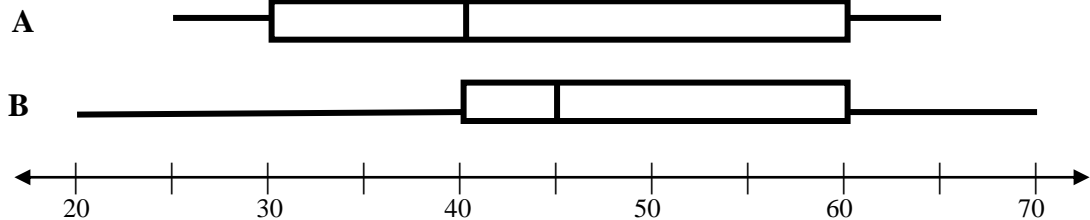
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Homework: Pages 740 – 742 (10 – 13, 20 – 23, 30 – 33, 41, 42)



10. What is the range of the data?
11. What is the interquartile range of the data?
12. What fractional part of the data is less than 90?
13. What fractional part of the data is greater than 95?

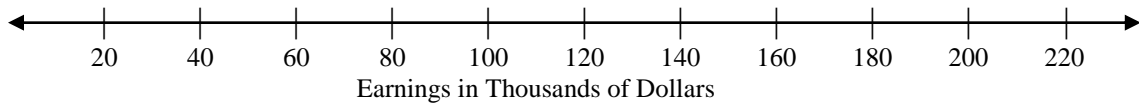


20. Which set of data contains the least value?
21. Which set of data contains the greatest value?
22. Which set of data has the greatest interquartile range?
23. Which set of data has the greatest range?

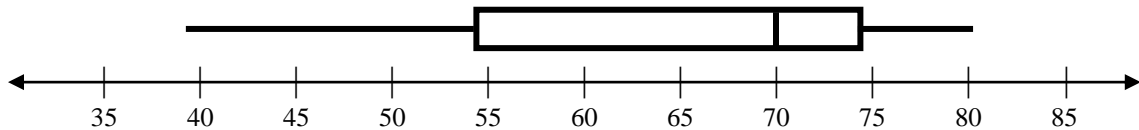
Earnings in thousands from the November 2000 NAPA 500 NASCAR Race at the Atlanta Motor Speedway.

\$181, \$100, \$98, \$89, \$76, \$58, \$60, \$58, \$55, \$57, \$54, \$64, \$44, \$39, \$66, \$52, \$56, \$38, \$56, \$51, \$49, \$38, \$50, \$48, \$48, \$40, \$36, \$36, \$39, \$36, \$47, \$36, \$47, \$38, \$35, \$46, \$35, \$55, \$46, \$55, \$45, \$43, \$35

30. Draw a box-and-whisker plot for the data.

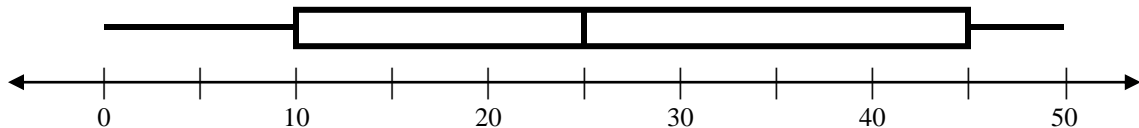


31. Determine whether the top half of the data or the bottom half of the data are more dispersed. Explain.



32. Estimate the range and the interquartile range.

33. Determine whether the top half of the data or the bottom half of the data are more dispersed. Explain.



41. What is the median of the data?

- A 0 B 10 C 25 D 45

42. Which interval represents 75% of the data?

- A 0-25 B 10-45 C 25-50 D 0-45