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Box-and-Whisker Plots

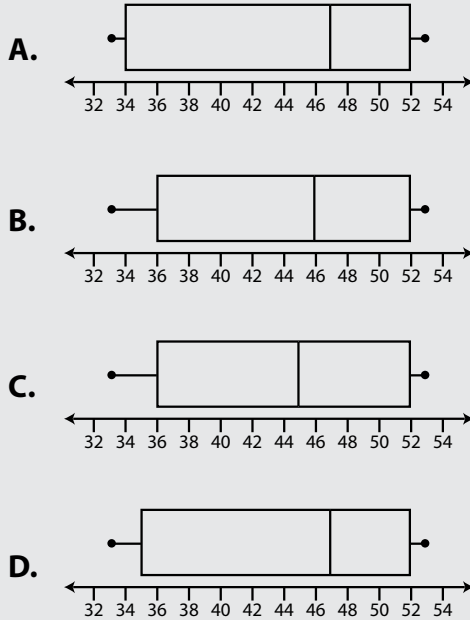
D.1.A D.1.B D.1.E D.3.F

Example

The ages in years of people on a tour are listed below.

44, 45, 47, 50, 53, 52, 36, 34, 33, 52

Which box-and-whisker plot correctly displays this data?



Thinking It Through

Look All of the information you need to create a box-and-whisker plot can be found in the data. Order the data from least to greatest:

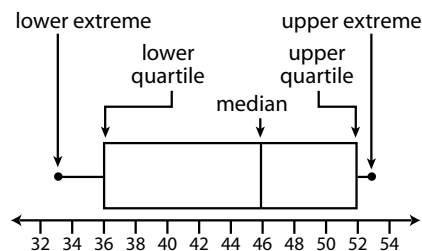
33, 34, 36, 44, 45, 47, 50, 52, 52, 53

The left dot represents the *lower extreme*, which is 33. The right dot represents the *upper extreme*, which is 53.

The left edge of the box represents the *lower quartile*, which is the median of the numbers less than the median. There are 10 ages, so look at the first 5 ages: 33, 34, 36, 44, 45. The lower quartile is 36.

The line segment in the box represents the *median*. The median is the mean of the two middle numbers (45 and 47), which is 46.

The right edge of the box represents the *upper quartile*, which is the median of the numbers greater than the median. Look at the last 5 numbers: 47, 50, 52, 52, 53. The upper quartile is 52.



The correct answer is *B*.

Review

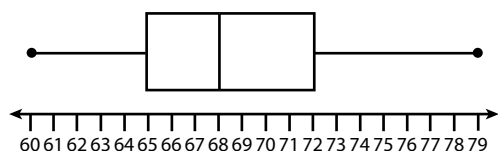
- A **box-and-whisker plot** gives you the following data: the **lower extreme**, **lower quartile**, median, **upper quartile**, and **upper extreme**, in order from left to right.
- The lower extreme is the least number in the set. The upper extreme is the greatest number in the set.
- The lower quartile is the median of the values less than the median. The upper quartile is the median of the values greater than the median. The **interquartile range** is the difference between the upper quartile and the lower quartile.

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Directions: Carefully read each question. Circle the letter of the correct answer.

1. What does 65 represent?



- A. lower quartile
 B. median
 C. upper extreme
 D. upper quartile
2. What is the interquartile range of the data set below?

7, 11, 23, 24, 65, 70, 81

- A. 16
 B. 57
 C. 59
 D. 74



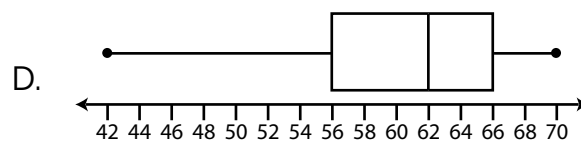
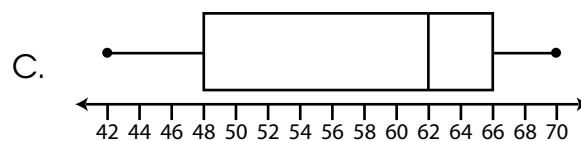
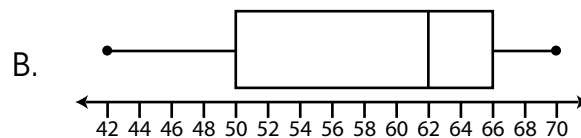
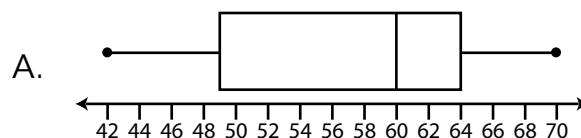
The interquartile range is the difference obtained by subtracting the lower quartile from the upper quartile.

Use the data below to answer questions 3 and 4.

The number of miles that Mr. Minton drove each day for his eight-day-vacation is shown below.

66, 50, 42, 62, 58, 48, 62, 70

3. Which box-and-whisker plot displays the data?



4. What is the interquartile range?

- A. 8 B. 15
 C. 17 D. 22