Name _____ Class _____ Date _____

Lesson 9-4

Box-and-Whisker Plots

Lesson Objective	Common Core Standards
To analyze a set of data by creating a box-and-whisker plot	Statistics and Probability: 6.SP.4, 6.SP.5.a, 6.SP.5.b

Vocabulary

A box-and-whisker plot is **a type of graph that uses five key values of an ordered set of data to show how the set of data is distributed or shaped.**

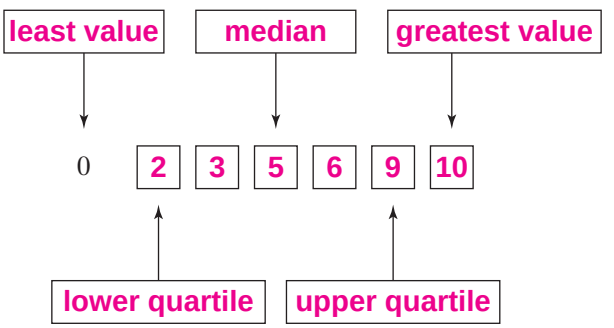
The lower quartile is **the median of the lower half of a data set.**

The upper quartile is **the median of the upper half of a data set.**

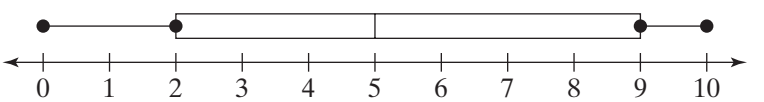
Example

1 Constructing a Box-and-Whisker Plot A school principal recorded the following number of students absent each day: 5, 3, 0, 9, 6, 2, 10. Construct a box-and-whisker plot to represent the data.

In the boxes below, list the data values in order and label the five key values.



Draw a number line from 1 to 10.



Draw a box from the lower quartile **2** to the upper quartile **9**. Draw a vertical line at the median **5**. Draw whiskers connecting the box to the least **0** and greatest **10** values.

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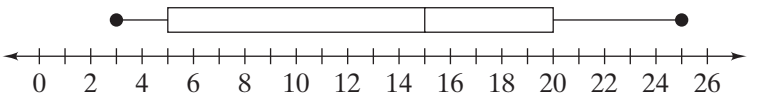
Quick Check

1. A girls' basketball team had the following scores: 7, 10, 16, 18, 20, 22, 22, 25, 30, 37, 43. The basketball team scored 40 points in a playoff game. Add the value 40 to the list of data. What are the five key values for a box-and-whisker plot that includes this game?

Least value: 7, lower quartile: 16, median: 22, upper quartile: 30, greatest value: 43

Example

❷ **Analyzing a Box-and-Whisker Plot** Olivia studied the prices for women's flip-flop sandals at different stores. She made the box-and-whisker plot below. Label the number line with the unit of measurement.



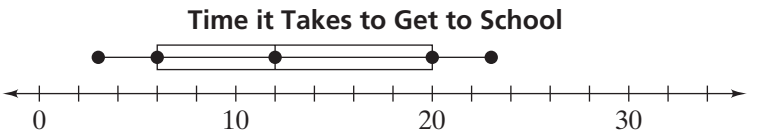
Prices (dollars)

The lower quartile is **$5**. The upper quartile is **$20**.

The fraction of the sandal prices that are between these values is **one-half**.

Quick Check

2. The box-and-whisker plot represents the number of minutes it takes 10 students to get to school. What is the unit of measurement for this set of data? What fraction of the students get to school in less than 20 minutes?



minutes; about three-fourths