NAME _____ DATE _____

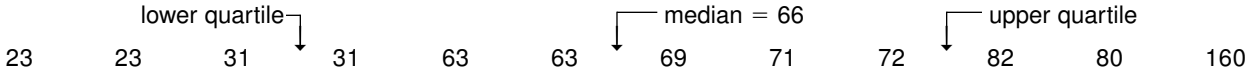
Study Guide

Student Edition
Pages 305–313

Integration: Statistics
Measures of Variation

A *measure of variation* called the **range** describes the spread of numbers in a set of data. To find the range, determine the difference between the greatest and least value in the set.

Quartiles divide the data into four equal parts. The **upper quartile** divides the top half into two equal parts. The **lower quartile** divides the bottom half into two equal parts. Another measure of variation uses the upper and lower quartile values to determine the **interquartile range.** Study the data below.



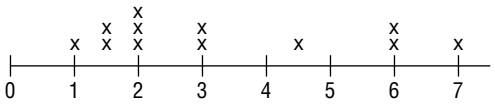
The lower quartile is the median of the lower half (31). The upper quartile is the median of the upper half (77). The range is 160 − 23 = 137. The interquartile range is 77 − 31 = 46.

Find the range, median, upper quartile, lower quartile, and interquartile range for each set of data.

1.

Month	Days below 32°F
November	5
December	20
January	21
February	15
March	8

2.



3. 4, 5, 5, 4, 4, 6, 5, 5, 5

4. 1, 7, 12, 10

5. 3, 0, 4, 9, 6, 4, 0, 1

6. 1.5, 0.5, 2, 3, 2.5

7.

Stem	Leaf
1	2 3 4 6 7 8
2	1 5 5 6 7 8 9
3	0 0 2 3

2 | 5 = 250

8.

Stem	Leaf
18	3 4 6 7
19	0 0 4
20	1 2 2 3 8 8
21	3 4 7

20 | 3 = 20.3

Solve.

9. In five pre-race trials a stock car driver recorded the following speeds in miles per hour: 155, 158, 163, 187, 172. Find the range and interquartile range.

10. The swimming times in seconds for the 50-yard butterfly were 36.30, 35.00, 31.60, 34.00, 35.52, 36.39, 38.87, and 41.62. Find the range, median, upper and lower quartiles, and interquartile range.