3-7

NAME _____ DATE _____

Measures of Central Tendency

(Pages 178–183)

Numbers known as **measures of central tendency** are often used to describe sets of data because they represent a centralized, or *middle*, value. Three of the most common measures of central tendency are the **mean**, the **median**, and the **mode**.

Mean	The mean of a set of data is the sum of the numbers in the set divided by the number of numbers in the set.
Median	The median of a set of data is the middle number when the numbers in the set are arranged in numerical order. If there is an odd number of values, the middle one is the median; if there is an even number of values, the median is the average of the two middle values.
Mode	The mode of a set of data is the number that occurs most often in the set. There may be 1 mode, no mode, or several modes.

EXAMPLE

Find the mean, median, and mode for the data in this stem-and-leaf plot.

Stem	Leaf
2	1 2 2
8	0 5
11	1 2 3
23	4 7

23|7 = 237

mean *(21 + 22 + 22 + 80 + 85 + 111 + 112 + 113 + 234 + 237) ÷ 10 or 103.7*

median *The two middle values are 85 and 111, and their average is (85 + 111) ÷ 2 or 98.*

mode *The value that occurs most often in the set is 22.*

PRACTICE

Find the mean, median and mode for each set of data. Round decimals to the nearest tenth.

1.

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

7|9 = 79

2.

Stem	Leaf
22	0 1 9
23	4
24	2 2 8
25	3 6 7

22|3 = 223

3. 4, 8, 1, 23, 11, 33, 3

4. 11, 18, 24, 18, 31, 2

5. 24, 24, 46, 41, 56, 97

6. 3.6, 7.9, 10.1, 9.8, 4.1, 2.0

7. Find a set of 5 numbers that satisfy this set of conditions: the mean is 6, the median is 6, and there is no mode.

8. **Standardized Test Practice** Which of these six numbers have a mean of 9, a median of 9, and a mode of 9?

A 9, 9, 10, 9, 9, 9 **B** 3, 6, 9, 9, 12, 15 **C** 2, 4, 6, 8, 10, 12 **D** 9, 9, 2, 4, 8, 6

Answers: **1.** 59; 56; 42 and 79 **2.** 240.2; 242; 242 **3.** 11.9; 8; none **4.** 17.3; 18; 18 **5.** 48; 43.5; 24 **6.** 6.25; 6; none **7.** Answers will vary. Sample answer: 2, 4, 6, 8, 10 **8.** B