

Day 4 Warm-Ups:

A student scored an 87%, 82%, 93% and a 95% on their first 4 tests. What would they need to get on the 5th test to get an A average if the lowest A is a 90%.

The sum of the first 4 quiz scores was 192. Their average for 5 tests was a 48. What did the student get on the 5th quiz score?

1-3

Goals ■ Read and create stem-and-leaf plots.

RETEACHING 1-3

STEM-AND-LEAF PLOTS

_____ can help you organize data so it can be easily analyzed.

Example

Make a stem-and-leaf plot for the high temperatures listed in the chart. Then write a description of the data.

Solution

Step 1: Form the _____.

The high temperatures range from 70 to 99. Use the digits in the tens place, 7, 8, and 9, as the stems. Write them in a column. Draw a vertical line to the right.

Step 2: Form the _____.

Show the first high temperature, 70° for Anchorage, by writing a "leaf," 0, next to the "stem," 7. To show 79° for Boston, write 9 next to the 0. Enter the rest of the leaves in the same way.

70

City	High	Low	High	Low	
Anchorage	70	54	Miami Beach	86	72
Boston	79	71	New York	86	72
Chicago	78	74	Richmond	97	77
Cleveland	84	88	St. Louis	75	56
Honolulu	87	75	Seattle	82	58
Phoenix	89	74	Washington	87	79
Los Angeles	76	67			

7	0 9 6 5
8	4 7 9 8 9 2
9	9 7 7

Step 3: The 70 is an _____ extremely high or low value. _____ (groups of values close to one another) appear in the high 80s and high 90s. There is a large _____ space between values) between 89 and 97.

Stem & Leaf Plot

A _____ organizes and displays data. The last digits of the data values are the _____. The digits in front of the leaves are the _____.

Data in a stem-and-leaf plot can be analyzed by looking for the greatest and least values, outliers, clusters and gaps. Data values that are much greater than or much less than most of the other values can be called _____.

_____ are isolated groups of values. _____ are large spaces between values.

Outliers

Clusters

Stem-and-Leaf Plot

Leaves

Stems

Gaps

Gaps

Example 1 Online Personal Tutor at mathmatters1.com

The stem-and-leaf plot shows the [redacted]

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

Find the following.

a. least and greatest values b. outliers **84**
 c. clusters **62 = mode** d. gaps **72-84**

Key

Ⓐ 47 - least
 84 - greatest

Ⓑ cluster in low 60's (62-63)

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SPORTS The stem-and-leaf plot show [redacted] during a recent season. Use the stem-and-leaf plot to identify the following.

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

4. number of games in the season **35**
 5. greatest number of points **99**
 6. least number of points **34**
 7. possible outliers **66**
 8. clusters **66** → cluster in upper 60's
 9. gaps **70-68** → **70's**
 10. mode(s) **66**, **93-99**, **34-40**, **42-51**

PRACTICE EXERCISES • For Extra Practice, see page 546.

The stem-and-leaf plot shows the test scores for a math class.

9	2 5 8
8	0 2 5 5 7
7	1 3 5 5 5 7 8 9
6	0 2 5 5 8
5	9 5 8

11. How many students took this test? **24**
 12. How many scores are above 90? **3**
 13. How many scores are below 65? **25**
 14. How many scored 85? **2**
 15. Find the mean, median, mode and range for the class.

mean: 74.6
 median: 75
 mode: 75
 range: 48 **Key: 7**

Reading a double stem and leaf plot.

Age at Inauguration	Age at Death
	9 0
	8 3
	7
1	6 7
7	7 5
	4

This is not a finished stem and leaf.
 61 inaugurated, 67 died
 57 57

3. Complete the stem-and-leaf plot for advertised monthly rents for one-bedroom apartments. Use the numbers in the hundreds as the stem.

Rents for 1-Bedroom Apartments			
\$400	\$480	\$485	\$525
\$395	\$387	\$300	\$388
\$435	\$360	\$360	\$400
\$380	\$380	\$350	\$375
\$400	\$415	\$325	\$395
\$370	\$300	\$390	\$490

2 | 25 80 80 99
 3 | 00 00 20 50 60 60 25 75 50
 4 | 00 00 00 00 15 25 35 70
 5 | 50

$22|5 = 225$

Key: $2|25 = 225$

④

22 | 5
 28 | 0 0
 29 | 5
 30 | 0 0
 32 | 0

Heart rate data collection to make a stem and leaf graph of the class.

Complete WS 1.3 for points.

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