

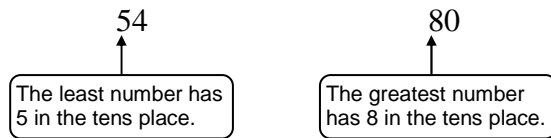
## Lesson 12-1

### Example 1 Draw a Stem-and-Leaf Plot

**SPEEDS** The data below are speeds (in miles per hour) of cars on a stretch of local highway. Display the data in a stem-and-leaf plot.

65 70 54 80 72 63 59 63 69 72 75 65 67

**Step 1** Find the least and greatest number. Then identify the greatest place value digit in each number. In this case, tens.



**Step 2** Draw a vertical line and write the stems from 5 to 8 to the left of the line.

| Stem |
|------|
| 5    |
| 6    |
| 7    |
| 8    |

**Step 3** Write the leaves to the right of the line, with the corresponding stem. For example, for 63, write 3 to the right of 6.

| Stem | Leaf        |
|------|-------------|
| 5    | 4 9         |
| 6    | 5 3 3 9 5 7 |
| 7    | 0 2 2 5     |
| 8    | 0           |

**Step 4** Rearrange the leaves so they are ordered from least to greatest. Then include a key or an explanation.

| Stem | Leaf        |
|------|-------------|
| 5    | 4 9         |
| 6    | 3 3 5 5 7 9 |
| 7    | 0 2 2 5     |
| 8    | 0           |

6 | 3 = 63 mph

### Example 2 Interpret Data

**CLASS ATTENDANCE** The stem-and-leaf plot lists the daily attendance in a junior high math class.

| Stem | Leaf          |
|------|---------------|
| 1    | 4 4 6 9       |
| 2    | 2 3 7 7 8 9 9 |
| 3    | 0 2 2 4       |

*2 | 9 = 29 students*

- a. **In which interval do most of the attendance totals occur?**

Most of the data occurs in the 20-29 interval.

- b. **What is the difference between the lowest attendance total and the highest attendance total?**

The lowest attendance total is 14 and the highest is 34. The difference is  $34 - 14$  or 20.

- c. **What is the median attendance total?**

The median, or the number in the middle, is 27.

### Example 3 Compare Two Sets of Data

**WEATHER** The average monthly temperatures for Cleveland, Ohio and Miami, Florida are shown.

| Cleveland, OH |   | Miami, FL     |
|---------------|---|---------------|
| 9 5           | 1 |               |
| 8 8 6 4 2     | 2 |               |
| 9 7 3         | 3 |               |
| 7 6 2 2       | 4 | 8             |
| 9 5 3 3 1     | 5 | 0 3 6 6 9     |
| 8 8 4 4 2     | 6 | 4 7 7 8 9 9   |
| 7 5 5 3       | 7 | 2 6 6 7 7 8 9 |
| 1             | 8 | 0 2 3 3 5 7 8 |

*2 | 4 = 42°*                      *5 | 6 = 56°*

- a. **Which city has lower monthly temperatures?**

Cleveland experiences temperatures in the 10's, 20's, and 30's. So, it has lower monthly temperatures.

- b. **Without calculating, determine which city has the most varied temperatures.**

The data for Miami range from the 40's to the 80's. The data for Cleveland range from the 10's to the 80's. So, Cleveland has the most varied temperatures.