

A distribution is **skewed to the left** if a greater proportion of the measurements lie to the left of the peak value. Distributions that are **skewed left** contain a few unusually small measurements.

A distribution is **unimodal** if it has one peak; a **bimodal** distribution has two peaks. Bimodal distributions often represent a mixture of two different populations in the data set.

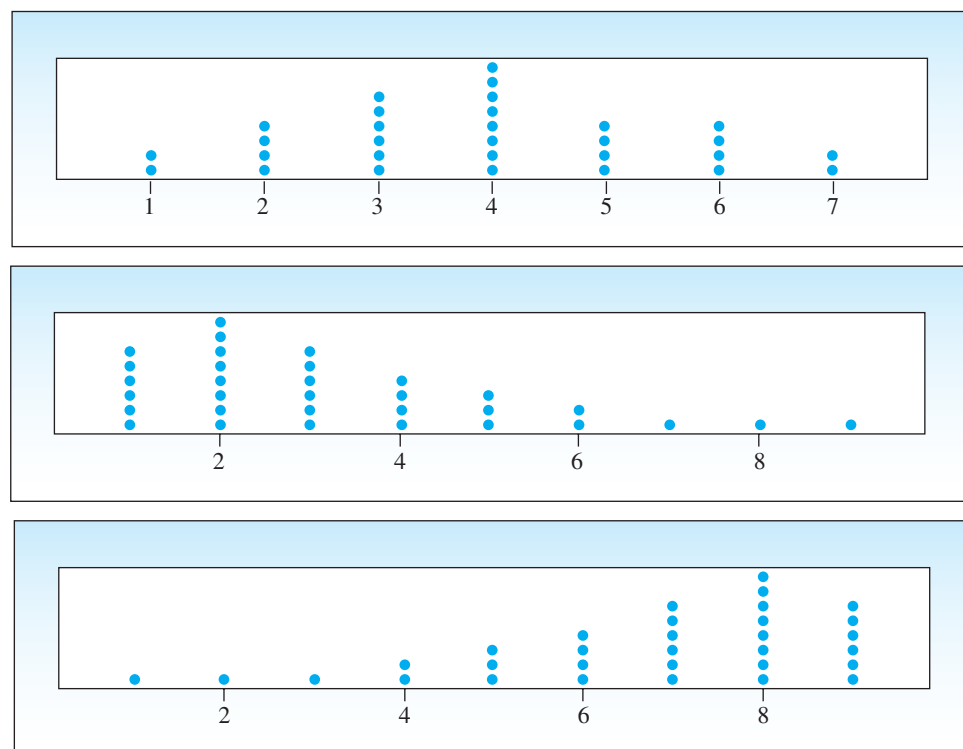
EXAMPLE

1.9

Examine the three dotplots generated by *MINITAB* and shown in Figure 1.12. Describe these distributions in terms of their locations and shapes.

FIGURE 1.12

Shapes of data distributions for Example 1.9

**MY TIP**

Symmetric \Leftrightarrow mirror images

Skewed right \Leftrightarrow long right tail

Skewed left \Leftrightarrow long left tail

Solution The first dotplot shows a *relatively symmetric* distribution with a single peak located at $x = 4$. If you were to fold the page at this peak, the left and right halves would *almost* be mirror images. The second dotplot, however, is far from symmetric. It has a long “right tail,” meaning that there are a few unusually large observations. If you were to fold the page at the peak, a larger proportion of measurements would be on the right side than on the left. This distribution is *skewed to the right*. Similarly, the third dotplot with the long “left tail” is *skewed to the left*.

EXAMPLE

1.10

An administrative assistant for the athletics department at a local university is monitoring the grade point averages for eight members of the women’s volleyball team. He enters the GPAs into the database but accidentally misplaces the decimal point in the last entry.

2.8 3.0 3.0 3.3 2.4 3.4 3.0 .21