

Section 1.1

Part I

An Introduction to Statistics

1.1.3 →

Distributional Thinking

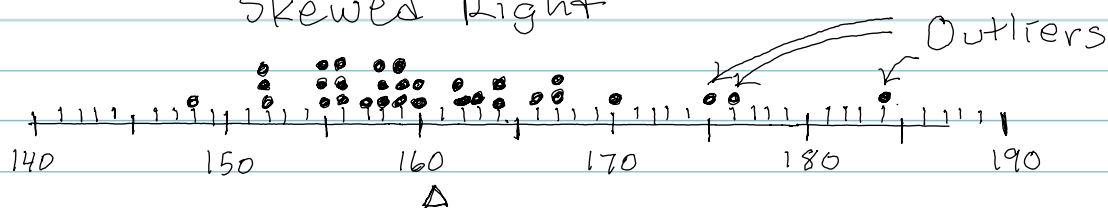
→ Summarizing a data set in terms of center, shape, and spread.

The following are adult female heights (cm).

{ 148, 152, 155, 152, 155, 155, 156, 158, 158, 156, }
{ 152, 159, 164, 157, 159, 160, 162, 158, 159, 156, }
{ 162, 160, 166, 167, 167, 164, 170, 175, 176, 184 }

Skewed Right

Dotplot



Center: Averages, places of highest frequency.

Shape: Look for outliers (extreme values separated from the group).

Skewness: when outliers on one side are not balanced by others on the other side. (When a distribution is not skewed we call it symmetric).

Some distributions are bell-shaped, some are uniform (flat).

Spread: We want to quantify the variation in our data set. (higher variability leads to larger error in statistical estimates).