Measurement Types
Central Tendency

PIERIAN DATA

Measurements of Data

- "What was the average return?"

  Measures of Central Tendency

- "How far from the average did individual values stray?"

  Measures of Dispersion

Measures of Central Tendency (mean, median, mode)

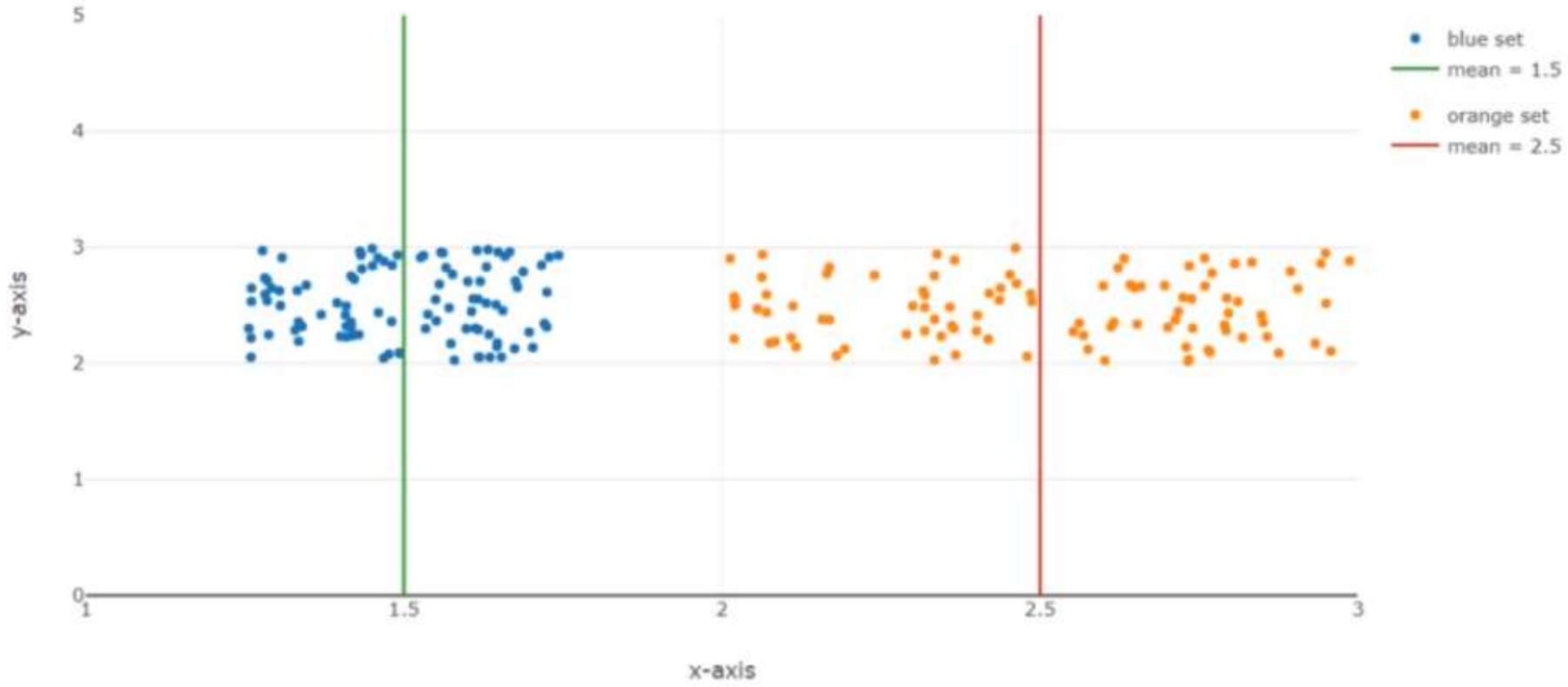
- Describe the “location” of the data
- Fail to describe the “shape” of the data

mean = “calculated average”

median = “middle value”

mode = “most occurring value”

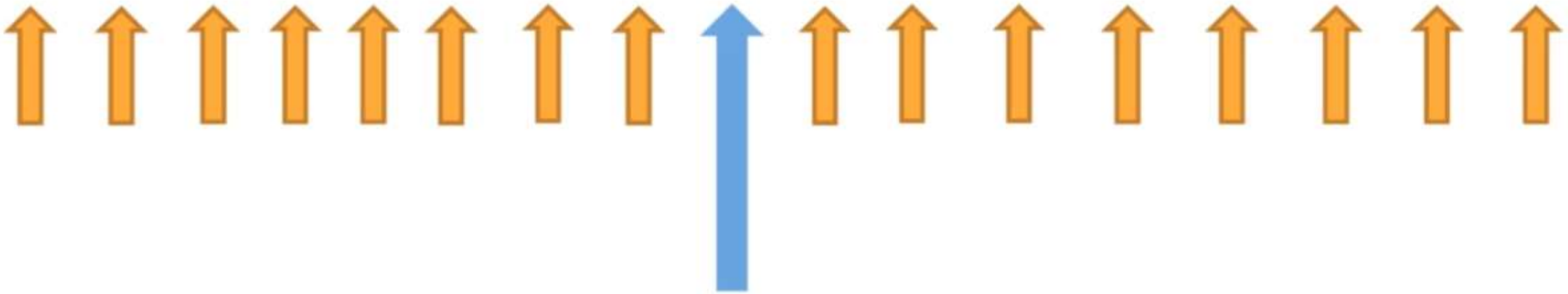
Mean



- Shows “location” but not “how spread out”

Median – *odd number of values*

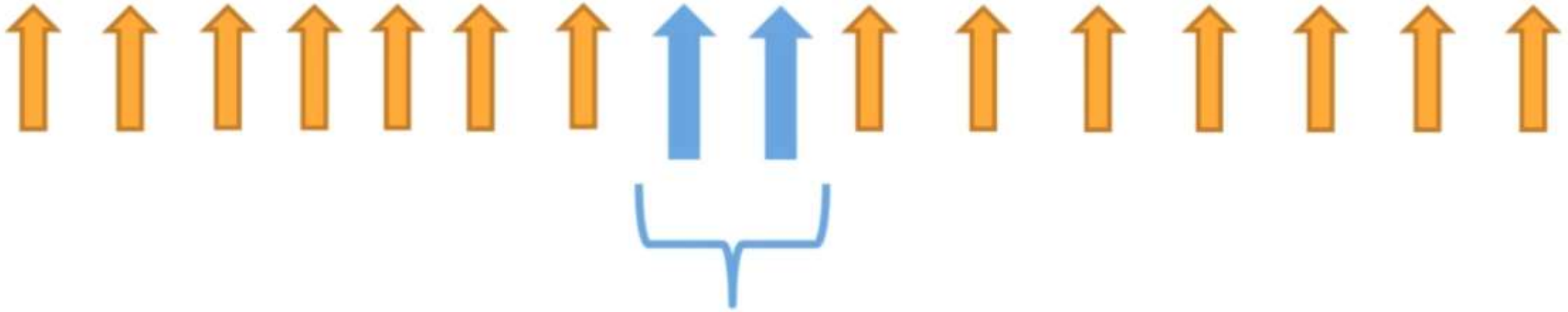
9 10 10 11 13 15 16 19 19 21 23 28 30 33 34 36 44



$= 19$

Median - *even number of values*

10 10 11 13 15 16 19 19 21 23 28 30 33 34 36 44



$$\frac{19 + 21}{2} = 20$$

Mean vs. Median

- The mean can be influenced by *outliers*.
- The mean of {2,3,2,3,2,12} is **4**
- The median is **2.5**
- The median is much closer to most of the values in the series!

Mode

10 10 11 13 15 16 16 16 21 23 28 30 33 34 36 44

$= 16$

PIERIAN DATA