

### Finding Mean, Median, and Mode

Using the 10 randomly collected ages that follows, answer the following questions. First find the answers by hand, and then via calculator!

[22, 29, 18, 46, 35, 41, 52, 60, 75, 67]

1. Find the mean of the data set.

$$\bar{X} = \frac{\sum x}{n} = \frac{(22+29+\dots+67)}{10} = 44.5$$

2. Find the median of the data set. 18, 22, 29, 35, 41, 46, 52, 60, 67, 75

$$\frac{41+46}{2} = 43.5$$

3. Find the mode of the data set, if applicable.

No Mode!!!

4. Using the data set, verify mean and median via 1-var stat.

Did you get the same answers? Yes or No

Explain why or why not.

Simple enough to be the case.

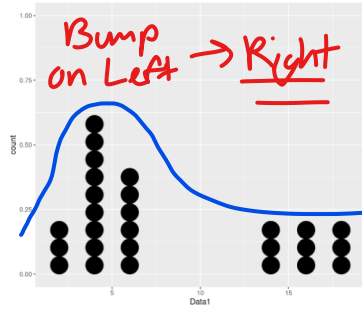
Rounding can affect that though!

### Relationship between Mean, Median, and Mode

For each diagram, determine what the type of symmetry, and what does that tell you about the relationship between the three central tendencies?

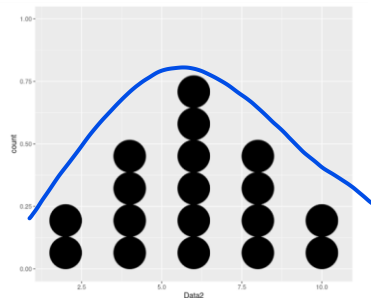
1. The symmetry is: Right-skewed

Thus, the relationship of the three tendencies are: Mode < M <  $\bar{X}$



2. The symmetry is: Symmetric

Thus, the relationship of the three tendencies are: Mode = M =  $\bar{x}$



3. The symmetry is: Left-skewed

Thus, the relationship of the three tendencies are:  $\bar{x} < M < \text{Mode}$

