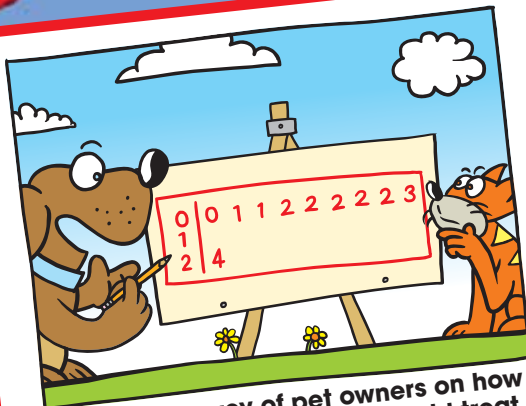


8 Data Analysis and Samples

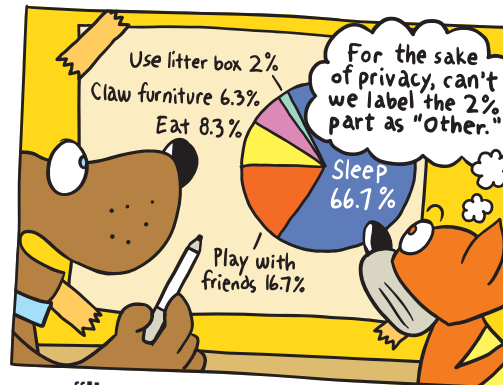
- 8.1 Stem-and-Leaf Plots
- 8.2 Histograms
- 8.3 Circle Graphs
- 8.4 Samples and Populations



"I took a survey of pet owners on how many times per day you should treat your dog to a biscuit."



"What do you think?"



"I've completed a circle graph analyzing what you do each day."

What You Learned Before

Finding Mean, Median, Mode, and Range

The table shows the top ten Olympic pole vault heights for men and women.

Example 1 What is the mean of the men's data?

$$\begin{aligned} \text{mean} &= \frac{\text{sum of data}}{\text{number of data values}} \\ &= \frac{56.71}{10} \approx 5.67 \end{aligned}$$

So, the mean height is about 5.67 meters.

Example 2 What is the median of the women's data?

$$\begin{aligned} &4.45, 4.55, 4.55, 4.65, \underbrace{4.65, 4.70, 4.75, 4.75, 4.80, 5.05}_{4.65 + 4.70} \\ &\qquad\qquad\qquad \frac{2}{2} \approx 4.68 \end{aligned}$$

So, the median is about 4.68 meters.

Example 3 What is the mode of the men's data?

Because it occurs most often, the mode is 5.70 meters.

Example 4 What is the range of the men's data?

$$\begin{aligned} \text{range} &= \text{greatest data value} - \text{least data value} \\ &= 5.96 - 5.45 = 0.51 \end{aligned}$$

So, the range is 0.51 meter.

Try It Yourself

Use the table to answer the question. Round your answer to the nearest hundredth.

1. What is the mean of the women's data?
2. What is the median of the men's data?
3. What is the mode(s) of the women's data?
4. What is the range of the women's data?



"Mom, my owner, and Fluffy have agreed to participate in my random survey. Will you be my fourth participant?"

Olympic Pole Vault Heights (meters)

Men	Women
5.45	4.55
5.60	5.05
5.96	4.75
5.70	4.65
5.45	4.65
5.70	4.55
5.60	4.70
5.70	4.75
5.85	4.80
5.70	4.45