

Chapter 1 Introduction: Data Analysis: Making Sense of Data

1. Define variable:
2. Explain the difference between a categorical variable and a quantitative variable. Give an example of each.
3. Give an example of a categorical variable that has number values.
4. Define distribution:
5. Define inference:

1.1: Analyzing Categorical Data

1. What type of data are pie charts and bar graphs used for?
2. What is a two-way table?

1.2: Displaying Quantitative Data with Graphs

1. What is a dotplot? Draw an example.
2. How are a stemplot and a histogram similar?

3. Draw an example of the following distributions:

Skewed Right	
Skewed Left	
Symmetric	
Unimodal	
Bimodal	
Multi-Modal	

4. When examining a distribution, you can describe the overall pattern by its

	Words to describe....	How to determine...
Shape		
Outliers/Gaps		
Center		
Spread		

5. When is it beneficial to split the stems on a stemplot?

6. When is it best to use a back-to-back stemplot?

1.3: Describing Quantitative Data with Numbers

1. What is the meaning of Σ ?

2. Explain the difference between \bar{x} and μ

3. Define resistant measure:

4. Explain why the mean is not a resistant measure of center.

5. Explain why the median is a resistant measure of center.

6. Is the range a resistant measure of spread? Explain.

7. Define Interquartile Range (IQR). How do you find first quartile Q_1 and third quartile Q_3 ?

8. Is the IQR and the quartiles a resistant measure of spread? Explain.

9. How is the IQR used to identify outliers?

10. What is the five-number summary of a distribution?

11. Explain how to use the five-number summary to make a boxplot. (Draw a picture!!!)

12. What does the standard deviation measure?

13. What is the relationship between variance and standard deviation?

What is the mathematical relationship between variance and standard deviation?

14. Which measures of center and spread are more reliable for the distributions below:

	Symmetric Distribution	Skewed Distribution
Center		

Spread		
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