AP Statistics Summer Assignment

Order your textbook and read the following from Chapter 1:

- Introduction- Data Analysis: Making Sense of Data (pgs 2 – 6)
- 1.1- Analyzing Categorical Data (Pgs 8- 22)
- 1.2- Displaying Quantitative Data with Graphs (pgs 30 – 46)

We will do an overview of this material in class the first week of school, but I'll expect you to be familiar with main ideas and vocabulary in these sections.

I'm attaching a copy of the reading guide for Chapter 1 below as well. Filling these out will be optional, but highly suggested—you can be creating a study guide for the AP Exam for yourself as you go! ☺ Excited to meet y'all in August! If you have any questions, let me know!

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Chapter 1 Introduction

Reading: Pgs 2 – 6
Suggested problems to study: 1, 3, 5, 7, 9, 10

Learning goals for this section:

1) Identify individuals and variables for a set of data.
2) Define categorical and quantitative variables

Vocabulary and Key Concepts to watch for:

Statistics –
Individuals –
Variable –
Categorical variable –
Quantitative variable –
Discrete variable –
Continuous variable –
Distribution –
Inference –

Section 1.1

Reading: Pgs 9 – 16
Suggested problems to study: 13, 15, 17, 19, 21, 23

Reading: Pgs 17 – 23
Suggested problems to study: 27, 29, 33, 35, 40-43

Learning goals for this section:

1) Make and interpret bar graphs for categorical data
2) Identify what makes some graphs of categorical data misleading
3) Distinguish between good and bad graphs
4) Calculate Marginal and joint relative frequencies from a two-way table
5) Calculate conditional relative frequencies from a two-way table
6) Use bar graphs to compare distributions of categorical data
7) Describe the nature of the association between two categorical variables

Vocabulary and Key Concepts to watch for:

- Frequency table
- Relative frequency table
- Pie chart
- Two-way table
- Marginal relative frequency (Marginal distribution)
- Joint relative frequency
- Conditional relative frequency (Conditional distribution)
- Bar graph
    - Side-by-side bar graph
    - Segmented bar graph
    - Mosaic plot
- Association

Section 1.2

Reading: Pgs 30 – 34, 37- 44
Suggested problems to study: 45, 49, 51, 59, 63

Reading: Pgs 34- 37, 45 - 47
Suggested problems to study: 55, 65, 69, 77, 80-85

Learning goals for this section:

1) Make and interpret dotplots, stemplots, and histograms of quantitative data
2) Identify the shape of a distribution from a graph
3) Describe the overall pattern (shape, center, and variability) of a distribution
4) Identify major departures from the pattern of a distribution (outliers)
5) Compare distributions of quantitative data using dotplots, stemplots, and histograms

Vocabulary and Key Concepts to watch for:

- Dotplot
- Symmetric distribution
- Right skewed distribution
- Left skewed distribution
- Stemplot
    - Stem
    - Leaf
- Shape
- Mode/Modality
    - Unimodal
    - Bimodal
    - Multimodal
- Center
- Variability
- Outliers
- Histogram

Section 1.3

Reading: Pgs 54 -65
Suggested problems to study: 87, 89, 91, 95, 97, 101, 103, 105, 121

Reading: Pgs 65 - 74
Suggested problems to study: 109, 111, 113, 115, 123-126

Learning goals for this section:

1) Calculate and interpret measures of center (mean and median) for a distribution of quantitative data
2) Calculate and interpret measures of variability (range, IQR, and Standard Deviation) for a distribution of quantitative data
3) Explain how outliers and skewness affect measures of center and variability
4) Identify outliers using the 1.5xIQR Rule
4) Make and interpret boxplots for a distribution of quantitative data
5) Use appropriate graphs and numerical summaries to compare distributions of quantitative data

Vocabulary and Key Concepts to watch for:

- Mean
- Median
- Statistic
- Parameter
- Resistant
- Range
- Standard Deviation
- Variance
- Quartiles
    - First Quartile
    - Third Quartile
- Interquartile Range (IQR)
- Five-number summary
- Boxplot
- 1.5 x IQR rule
    - Outliers

****Multiple Choice:** 40-42, 80-85, 123 – 126
****Practice Test:** Pgs 86-88