

Chapter 3 EXAMINING Relationships

SCATTERPLOTS, CORRELATION, AND REGRESSION

This chapter introduces you to the concept of describing the relationship between two variables using a scatterplot, correlation, and a regression equation. You will learn how to build a least-squares regression equation and how to use that equation to predict values based on an observed relationship.

Chapter Objectives

- Construct and interpret a scatterplot for a set of bivariate data.
- Compute and interpret the correlation r between two variables.
- Demonstrate an understanding of the basic properties of the correlation r .
- Explain the meaning of a least squares regression line.
- Given a bivariate set of data, construct and interpret a regression line.
- Demonstrate an understanding of how one measures the quality of a regression line as a model for bivariate data.

CHAPTER 3

Scatterplots and Correlation

- Explanatory and Response Variables
- Correlation Coefficient, r

Least-Squares Regression

- Regression Line
- Residuals
- Residual Plot
- Coefficient of Determination

Correlation and Regression Wisdom

- Extrapolation
- Outliers
- Influential Observations
- Lurking Variables

MON	TUE	WED	THU	FRI
		10 Sect 3.1	11 Sect 3.1	12 Sect 3.2
		• Scatterplots • Explanatory and Response Variables	• Correlation	• Least-Squares Regression
		3.1-3.5, 3.7, 3.9	3.13-3.14, 3.16, 3.20	3.29-3.32
15	16 Sect 3.2	17 Quiz	18 No School	19 No School
	• Using the Least Squares Regression Line • Residual Plots	Quiz 3.1-3,2		
Read 3.1-3.2, Worksheet	3.33, 3.35-3.38	Practice Worksheet		
22 Sect 3.3	23 Review	24 Chapter Exam		
• Extrapolation • Influential Points	Case Closed FRAPPY	Chapter 3 Exam		
Case Closed	3.81, 3.86	Online Quiz Due		

Examining Relationships

AP STATS
CHAPTER 3

Essential Questions

- What are Explanatory and Response Variables?
- What is the Strength, Direction, and Form of a Scatterplot?
- What is correlation and how is it calculated?
- How can we describe a bivariate relationship with a least-squares regression line?
- What is a residual plot and how do we use it?
- What are some cautions we should exercise when performing regression?

"You can only predict things after they've happened." - Eugene Ionesco
