

Section 1.7 Linear Models and Scatter Plots

Course Number

Instructor

Date

Objective: In this lesson you learned how to use scatter plots and a graphing utility to find linear models for data.

Important Vocabulary

Define each term or concept.

Fitting a line to data

I. Scatter Plots and Correlation (Pages 73–74)

Many real-life situations involve finding relationships between two variables. If data is collected and written as a set of ordered pairs, the graph of such a set is called a _____.

For a collection of ordered pairs of the form (x, y) , if y tends to increase as x increases, the collection is said to have a(n) _____ . If y tends to decrease as x increases, the collection is said to have a(n) _____ .

What you should learn

How to construct scatter plots and interpret correlation

II. Fitting a Line to Data (Pages 74–77)

To fit a line to data represented in a scatter plot, . . .

What you should learn

How to use scatter plots and a graphing utility to find linear models for data

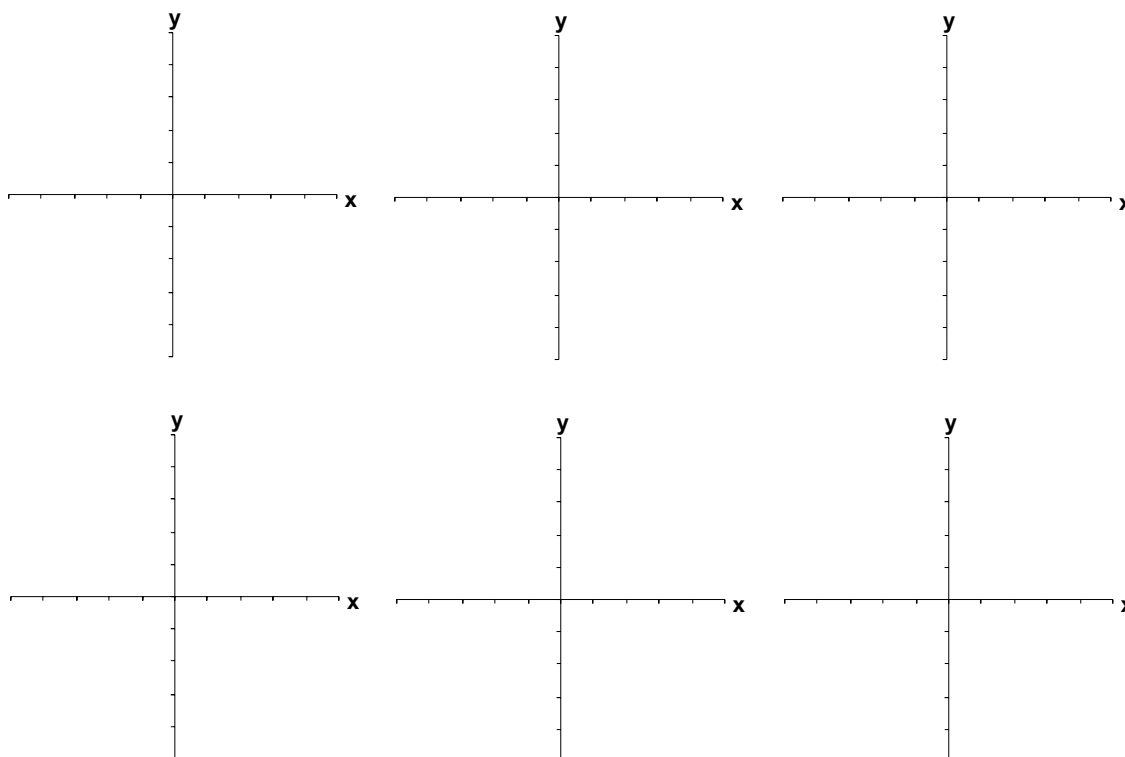
To measure how well a linear model fits the data used to find the model, . . .

The correlation coefficient r of a set of data varies between _____ and _____. The closer $|r|$ is to 1, the better . . .

Example 1: The numbers of U.S. Navy personnel p in thousands on active duty for the years 2002 through 2006 are shown in the table. Use the regression capabilities of a graphing utility to find a linear model for the data. Let t represent the year with $t = 2$ corresponding to 2002.

Year	2002	2003	2004	2005	2006
p	383	381	376	364	353

(Source: U.S. Department of Defense)



Homework Assignment

Page(s)

Exercises