

5.6 Fit a Line to Data

pp. 323–331

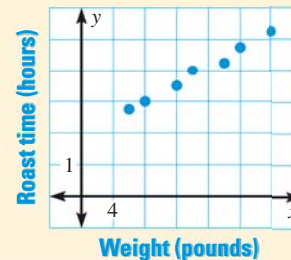
EXAMPLE

The table shows the time needed to roast turkeys of different weights. Make a scatter plot of the data. *Describe* the correlation of the data.

Weight (pounds)	6	8	12	14	18	20	24
Roast time (hours)	2.75	3.00	3.50	4.00	4.25	4.75	5.25

Treat the data as ordered pairs. Let x represent the turkey weight (in pounds), and let y represent the time (in hours) it takes to roast the turkey. Plot the ordered pairs as points in a coordinate plane.

The scatter plot shows a positive correlation, which means that heavier turkeys tend to require more time to roast.



EXERCISES

21. **AIRPORTS** The table shows the number of airports in the United States for several years during the period 1990–2001. Make a scatter plot of the data. *Describe* the correlation of the data.

Years	1990	1995	1998	1999	2000	2001
Airports (thousands)	17.5	18.2	18.8	19.1	19.3	19.3

EXAMPLE 2

on p. 326
for Ex. 21

5.7 Predict with Linear Models

pp. 335–341

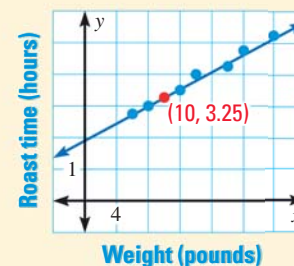
EXAMPLE

Use the scatter plot from the example for Lesson 5.6 above to estimate the time (in hours) it takes to roast a 10 pound turkey.

Draw a line that appears to fit the points in the scatter plot closely. There should be approximately as many points above the line as below it.

Find the point on the line whose x -coordinate is 10. At that point, you can see that the y -coordinate is about 3.25.

- It takes about 3.25 hours to roast a 10 pound turkey.



EXERCISES

22. **COOKING TIMES** Use the graph in the Example above to estimate the time (in hours) it takes to roast a turkey that weighs 30 pounds. *Explain* how you found your answer.

EXAMPLE 2

on p. 336
for Ex. 22