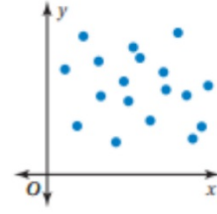
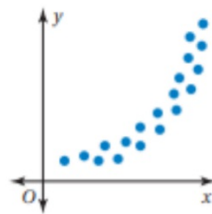
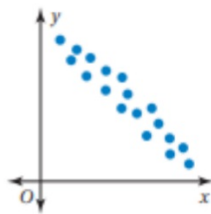
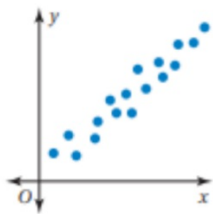


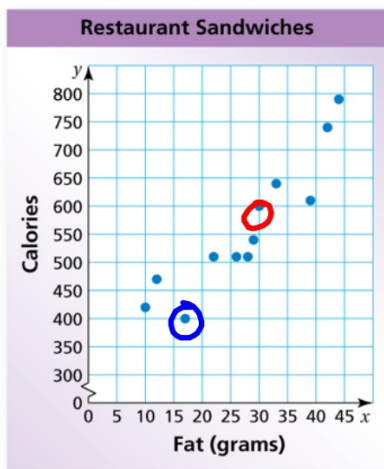
9.1 Scatter Plots

Learning Targets

- Create Scatter Plots
- Interpret Scatter Plots
- Describe Relationships



Interpreting a Scatter Plot.



The scatter plot at the left shows the amounts of fat (in grams) and the numbers of calories in 12 restaurant sandwiches.

- a. How many calories are in the sandwich that contains 17 grams of fat?

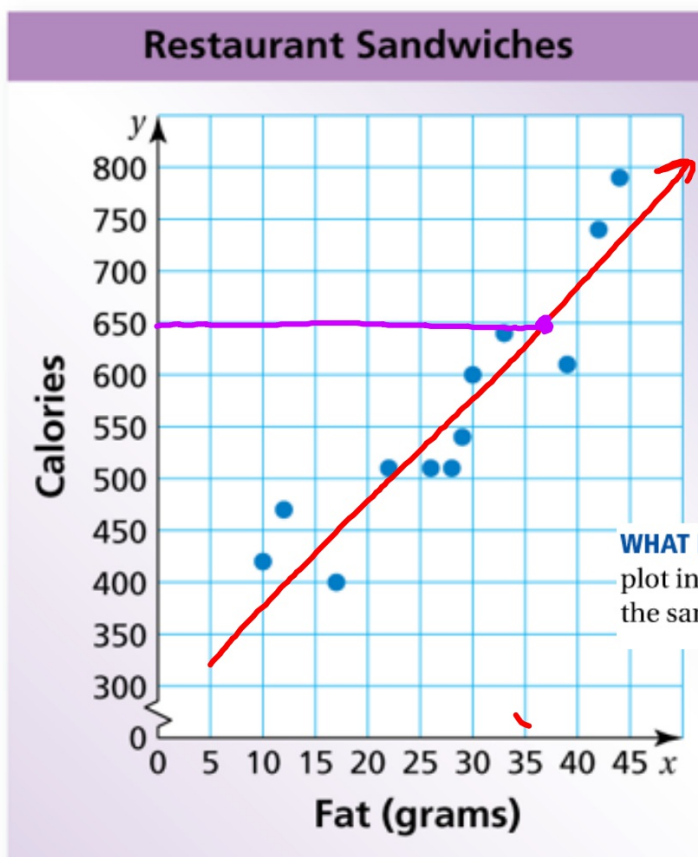
400

- b. How many grams of fat are in the sandwich that contains 600 calories?

30

- c. What tends to happen to the number of calories as the number of grams of fat increases?

Interpreting a Scatter Plot.



- a. How many grams of fat are in the sandwich that contains 740 calories? ≈ 42 or 43
- b. How many calories are in the sandwich that contains 33 grams of fat? ≈ 640

WHAT IF? A sandwich has 650 calories. Based on the scatter plot in Example 1, how many grams of fat would you expect the sandwich to have? Explain your reasoning.

≈ 37

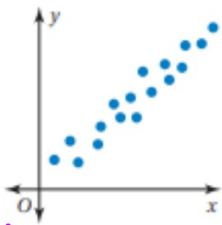
Describing Relationships

- linear / non-linear
- positive / negative

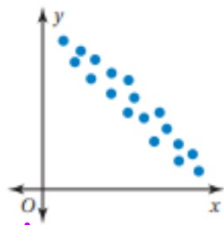
Identifying Special Aspects of the Data

- outliers
- gaps
- clusters

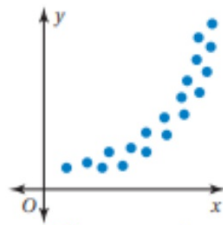
A scatter plot can show that a relationship exists between two data sets.



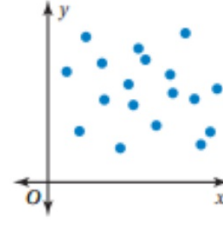
Linear
Positive



Linear
Negative



Positive
Non-Linear
Curves
(Exponential
Relationship)



Non-Linear
NO
Relationship

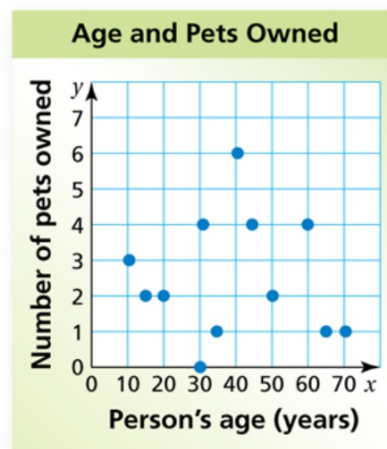
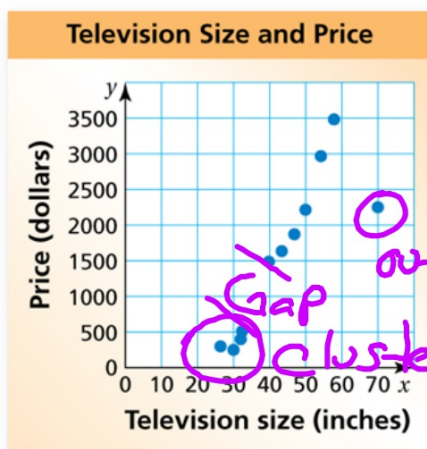
Describe the
Relationship

Explain Why

Describe the relationship between the data. Identify any outliers, gaps, or clusters.

a. television size and price

b. age and number of pets owned



Linear Positive

❖ So, the scatter plot shows a positive linear relationship. There is an outlier at (70, 2250), a cluster of data under \$500, and a gap in the data from \$500 to \$1500.

❖ So, the scatter plot shows no relationship. There are no obvious outliers, gaps, or clusters in the data.

Homework

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