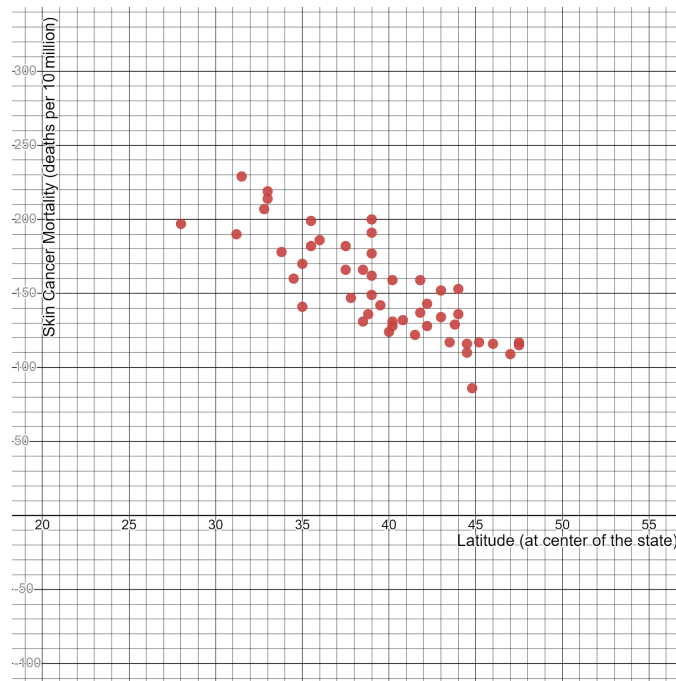


9.1.1: Exercises

1. Below is a scatterplot of latitudes (at the center of the state) (degrees north) and skin cancer mortality (deaths per 10 million) for 49 US states from the 1950s.



Images are created with the graphing calculator, used with permission from Desmos Studio PBC.

- a. What does a point on the scatterplot represent?
- b. What is the explanatory variable? What is the response variable?

c. Estimate the latitude of the state with the highest skin cancer mortality rate.

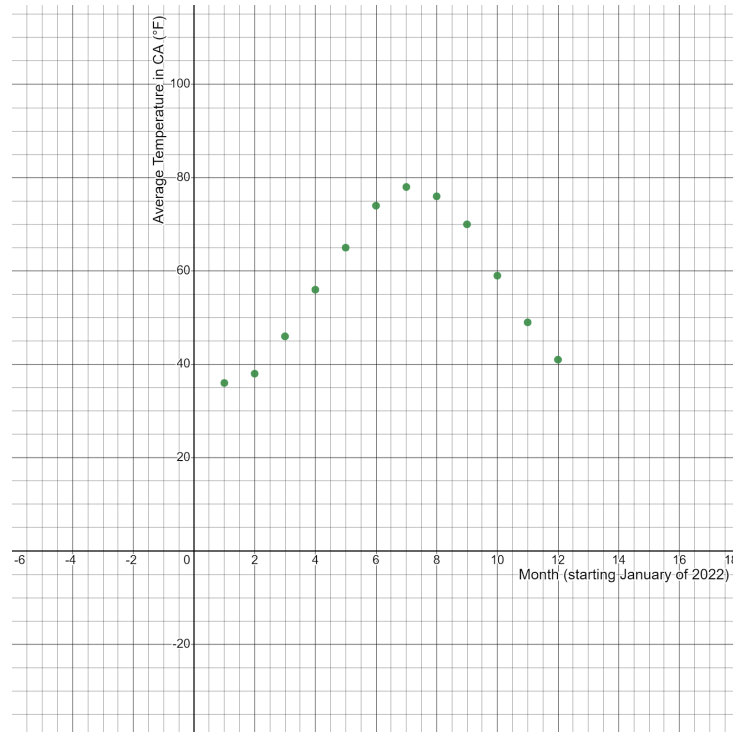
d. Estimate the latitude of the state with the lowest skin cancer mortality rate.

e. Estimate the skin cancer mortality rate of the state with the lowest latitude.

f. What is the direction and strength of the scatterplot? Explain.

g. Predict the skin cancer mortality rate for a state with central latitude of 50 degrees north.

2. Given below is the scatterplot of months (starting January of 2022) and the average temperature in CA in degrees fahrenheit.



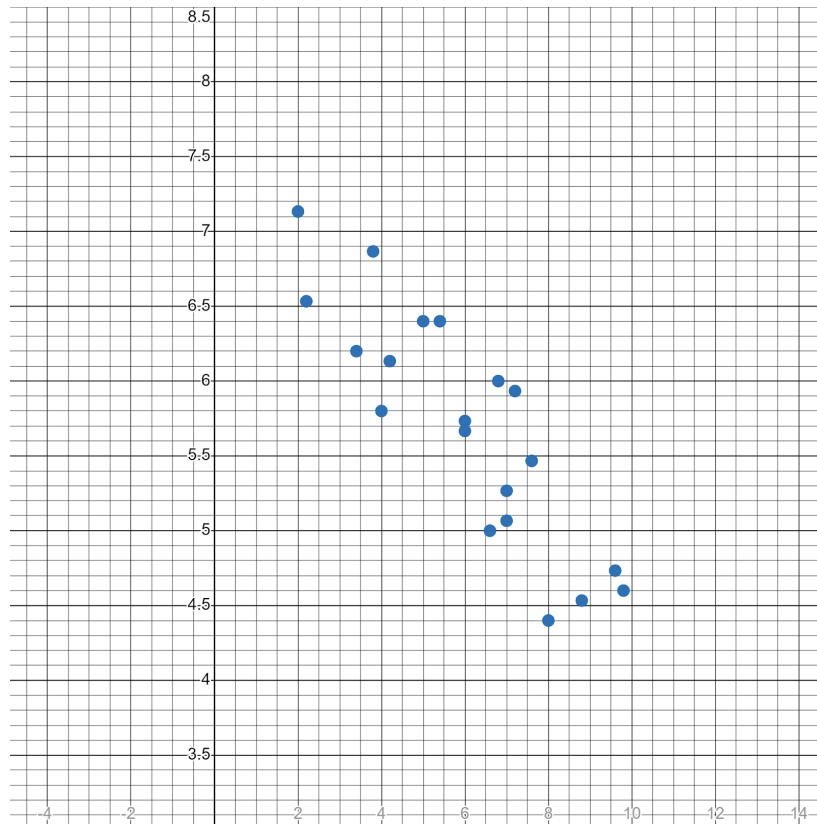
Images are created with the graphing calculator, used with permission from Desmos Studio PBC.

a. Classify the strength of the association. Explain.

b. Use the scatterplot to predict the average temperature in CA in April of 2023 (which corresponds to the x-value 16).

c. Your friend believes that a scatterplot with a linear association (where points follow a path that is a line) is the easiest to make predictions from. Explain why your friend is mistaken.

3. Given below is a scatterplot.



Images are created with the graphing calculator, used with permission from Desmos Studio PBC.

- What is the strength and direction of the scatterplot? Justify your answer.
- Think of a possible category that could have data/results like are shown in this scatterplot. What might a point on this scatterplot represent? What does the explanatory variable represent? What does the response variable represent?

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