AP Statistics

2019-01-28 Chapter 3 Review

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Part 1

Question 1

Yes. The x axis and y axis clearly note what variables are relevant to the study. The explanatory variable is age and the response is the systolic blood pressure.

Question 2

Positive. This shows that, as age increases, systolic blood pressure increases.

Question 3

Linear

Question 4

r = 0.5

This is because the dots mostly form a line, however, are not strictly linear, particularly with the outlier.

Question 5

This point is an outlier from the remainder of the data and is separate from the primary form/trend of the data.

Question 6

Increase, as the correlation measures how close the data matches a given trend-line.

Question 7

No - correlation does not change with scaling or movement of the data. It only has to do with the relative distance between points and trends.

Part 2

Question 1

The slope shows that, for every 1º increase in latitude, temperature in July is predicted to decrease by 0.782.

Question 2

$\hat{y} = 106.5 - 0.782(42) = 73.656º$

Question 3

$r = y - \hat{y} = 74 - 73.656 = 0.344$

The average temperature for Detroit was 0.344º higher than predicted.

Question 5

It would increase (closer to zero)

Question 6

27.7% of the average temperatures are accurately represented by the regression line.