1. **(1 point)** carroll_problib/statistics/regression/5.1.3.pg
An airline has determined that the relationship between the number of passengers on a flight and the total weight of luggage stored in the baggage compartment can be estimated by the least squares regression equation $\hat{y} = 10x + 189$, where x is the number of passengers and $\hat{y}$ is the predicted weight of the luggage.

(a) Predict the weight of luggage for a flight with 29 passengers: _____ pounds

(b) For what number of passengers would the predicted the weight of luggage be 1280 pounds? _____ passengers

Answer(s) submitted:

-
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(incorrect)

2. **(1 point)** carroll_problib/statistics/regression/5.1.4.pg
Is the number of games won by a major league baseball team in a season related to the team batting average? The table below shows the number of games won and the batting average (in thousandths) of 8 teams.

Team	Games Won	Batting Average
1	83	270
2	69	272
3	108	260
4	111	264
5	77	288
6	110	278
7	64	267
8	75	272

Using games won as the explanatory variable x, do the following:

(a) The correlation coefficient is $r =$ _____.

(b) The equation of the least squares line is $\hat{y} =$ _____.

(c) The proportion of the variation of y (team batting averages) which is explained by x (games won) is _____.

Answer(s) submitted:

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(incorrect)

3. **(1 point)** carroll_problib/statistics/regression/5.1.5.pg
For each problem, select the best response.

(a) A gambler conducts a study to determine whether the time it took a horse to run its last race can be used to predict the time it takes the horse to run its next race. In this study, the explanatory variable is

- A. the gambler's winnings.
- B. the time it takes a horse to run its next race.
- C. all horses used in the study.
- D. the time it took a horse to run its last race.
- E. None of the above.

(b) Can one predict a student's score on the midterm exam in a statistics course from the number of hours the student spent studying for the exam? To explore this, the teacher of the course asks students how many hours they spent studying for the exam and then makes a scatterplot of the time students spent studying and their scores on the exam. In making the scatterplot, the teacher should

- A. first determine if the scores on the exam approximately follow a normal distribution.
- B. plot the score on the exam on the horizontal axis.
- C. plot time spent studying for the exam on the horizontal axis.
- D. use a plotting scale that makes the overall trend roughly linear.
- E. None of the above.

(c) Does mandatory gun ownership prevent crime? To study this, the number of burglaries committed each month in a small town were recorded for 75 months prior to passage of a bill requiring citizens to own guns and for 56 months after passage of the bill. The goal was to see if the number of burglaries committed was affected by requiring citizens to own guns. The response variable here is

- A. the number of burglaries committed.
- B. whether or not a burglary was committed by a gun owner.
- C. the number of guns owned.
- D. whether or not gun ownership is required by law.
- E. None of the above.

Answer(s) submitted:

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(incorrect)

4. **(1 point)** carroll_problib/statistics/regression/5.1.8.pg
Listed below are altitudes (thousands of feet) and outside air temperatures (in degrees Fahrenheit) recorded on a recent flight.

Altitude	3	10	14	22	28	31	33
Temperature	57	37	24	-5	-30	-41	-54

Copy and paste this data into Excel.
The Pearson's Correlation coefficient is $r =$ _____.
The slope of the best-fit line for this data is _____.
The intercept of the best-fit line for this data is _____.
Based on the correlation coefficient, we can say that:

- A. There is a strong positive correlation between altitude and temperature.
- B. There is a weak positive correlation between altitude and temperature.
- C. There is no correlation between altitude and temperature.
- D. There is a weak negative correlation between altitude and temperature.
- E. There is a strong negative correlation between altitude and temperature.

Which of the following statements are true?

- A. You would expect a temperature recorded at an altitude of 11 thousand feet to be about 3.7 degrees lower than a temperature recorded at an altitude of 10 thousand feet.
- B. You would expect a temperature recorded at an altitude of 11 thousand feet to be about 72.5 degrees higher than a temperature recorded at an altitude of 10 thousand feet.
- C. You would expect a temperature recorded at an altitude of 11 thousand feet to be about 1 degree lower than a temperature recorded at an altitude of 10 thousand feet.
- D. You would expect a temperature recorded at an altitude of 11 thousand feet to be about 3.7 degrees higher than a temperature recorded at an altitude of 10 thousand feet.
- E. You would expect a temperature recorded at an altitude of 11 thousand feet to be about 72.5 degrees lower than a temperature recorded at an altitude of 10 thousand feet.

(Relevant section: **Introduction to Linear Regression**)
Answer(s) submitted:

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(incorrect)

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5. **(1 point)** carroll_problib/statistics/regression/5.1.9.pg
We are interested in understanding the salaries of professional hockey players. In the data set **Hockey.csv**, the variable *GF* gives a count of the total number of team goals scored while the player in question is on the ice. Is this variable a good predictor of salaries?

State the equation of the best-fit line for this data:
_____ + _____ * GF = Salary

What percent of the variation in player salaries can be explained by their *GF* scores?

_____

If Player A's *GF* score is 5 goals less than Player B's *GF* score, which player would you expect to have a higher salary?

- A. Player B
- B. Player A

How far apart would you expect their salaries to be?
$_____
Answer(s) submitted:

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(incorrect)

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6. **(1 point)** carroll_problib/statistics/regression/5.1.10.pg
Is the number of square feet a good predictor of home sales price?

Use the data set **Housing.csv** to answer this question. The variable *sqft_living* gives the number of square feet for each home in the data set.

State the equation of the best-fit line for this data:
_____ + _____ * budget = gross

What percent of the variation in home sale prices can be explained by examining their square-footage?

_____

If one house is 500 square feet bigger than another house, what would you expect the difference in prices to be?
$_____
Answer(s) submitted:

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-

(incorrect)

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7. **(1 point)** carroll_problib/statistics/regression/5.1.11.pg
Researchers at the University of Denver Infant Study Center wondered if temperature might influence the age at which babies learn to crawl. Data were collected on 208 boys and 206 girls. Parents reported the month of the baby's birth and the age (in weeks) at which their child first crawled.

After conducting the study, analyzing the data, and finding the relevant best-fit line, the researchers made the following statement:

Our study found if the average temperature was 50 degrees F when a baby was 6 months old, then the expected crawling age for that baby was about 29.8 weeks. If the temperature (at age 6 months) was a single degree hotter, then the expected crawling age would be about .08 weeks earlier. In fact, the average temperature 6 months after birth accounted for about 49

From the staement above we can conclude :

The slope of the best-fit line for this study is $m =$ _____

The intercept of the best-fit line for this study is $b =$ _____

The correlation coefficient for this data set is $R =$ _____

The R^2 value for this data set is _____

(Relevant section: **Introduction to Linear Regression**)

Answer(s) submitted:

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(incorrect)

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8. **(1 point)** carroll_problib/statistics/regression/5.2.1.pg

In March 2002, ¡i¿Consumer Reports¡/i¿ reviewed several models of inkjet printers. Shown are the speed of the printer (in pages per minute) and the cost per page printed.

Speed (ppm)	4.6	5.5	4.5	3.8	4.6	3.7	4.7	4.7	4	3.1	1.9	2.2	1.8	2	2
Cost (cents/page)	13.4	9.9	7.6	4.8	4	5.4	7.2	9.5	10.8	16.3	4	5.7	6	16.2	5.8

Copy and paste the data into Excel.

The correlation coefficient for the data is $r =$ _____

If printer 'A' can print one page per minute faster than printer 'B', then you would expect printer 'A' to cost approximately _____ cents per page more than printer 'B'.

The y-intercept for the equation of the best-fit line for this data set is $b =$ _____.

In this data set, the speed (in pages per minute), can be used to explain _____

Based on the correlation coefficient, we can say that:

- A. There is a strong negative correlation between speed and cost.
- B. There is a weak negative correlation between speed and cost.
- C. There is a weak positive correlation between speed and cost.
- D. There is no correlation between speed and cost.
- E. There is a strong positive correlation between speed and cost.

(Relevant section: **Introduction to Linear Regression**)

Answer(s) submitted:

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(incorrect)

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9. **(1 point)** carroll_problib/statistics/regression/5.2.2.pg

The file **indiaA.csv** contains data obtained from a 2012 survey of 47 districts in India. The variable *Mothers* gives the percentage of mothers in a each district who had prenatal care during the first trimester of their pregnancies. The *HouseSize* indicates the average number of people per household in these districts. We want to investigate whether there is a relationship between these variables.

State the equation of the best-fit line for this data:

_____ + _____ * Mothers = HouseSize

What percent of the variation in average household size can be explained by examining early prenatal care?

_____

What is the expected (positive) difference in average household size between two counties whose early prenatal care prevalence differs by 10_____

If Bongaigaon County has higher prevalence of early prenatal care than Tinsukia County, which county would you expect to have larger average household size?

- A. Bongaigaon County
- B. Tinsukia County

Answer(s) submitted:

-
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-
-

(incorrect)

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10. **(1 point)** carroll_problib/statistics/regression/5.2.3.pg

Data analysts were asked to build a model to predict box office receipts for major films produced by a certain movie production company. The production company was particularly interested in predicting sales during the second week of wide release. The analysts collected weekly sales numbers for 572 movies over the course of several years. and analyzed the data. They made the following statement:

Our study found that the sales during the first week of wide release can be used to predict the second week box office numbers. In fact, 68.3

From the staement above we can conclude :

The slope of the best-fit line for this study is $m =$ _____

The intercept of the best-fit line for this study is $b =$ _____

The correlation coefficient for this data set is $R =$ _____

The R^2 value for this data set is _____

(Relevant section: **Introduction to Linear Regression**)

Answer(s) submitted:

-
-
-
-

(incorrect)

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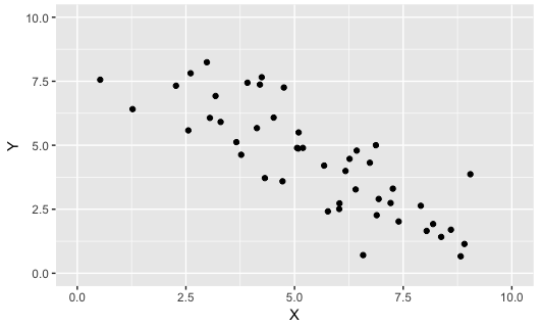
11. **(1 point)** carroll_problib/statistics/regression/5.2.4.pg



Which of the following values for slope, intercept, R, and R^2 correspond to the data in the above scatterplot?

- A. $m = 1, b = 10, R = 0.24, R^2 = .058$
- B. $m = -1, b = 10, R = -0.24, R^2 = .058$
- C. $m = -1, b = 10, R = -0.656, R^2 = .43$
- D. $m = 1, b = 5, R = -0.656, R^2 = .43$
- E. $m = -1, b = 10, R = 0.24, R^2 = .058$
- F. $m = 1, b = 5, R = 0.656, R^2 = .43$

Answer(s) submitted:

-

(incorrect)

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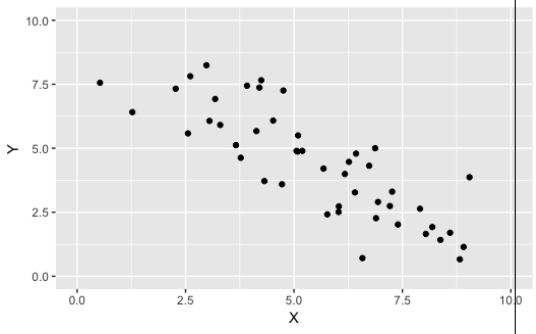
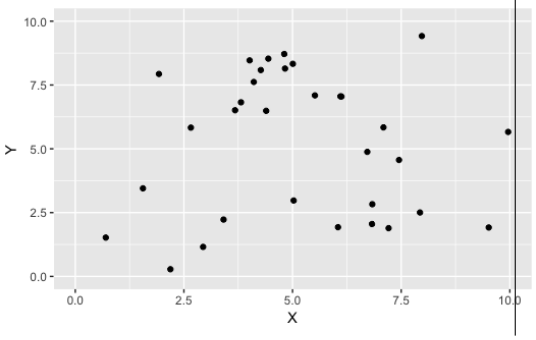
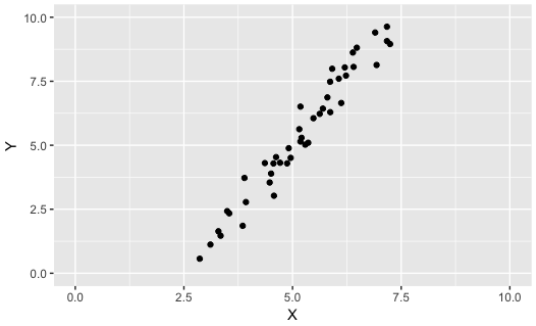
12. **(1 point)** `carroll_problib/statistics/regression/5.2.5.pg`



Scatterplot A:



Scatterplot B:



Scatterplot C:

Place the scatterplots in order of their R^2 value, where 1 = closest to 0

1 - least amount of variation explained

- A. Scatterplot C
- B. Scatterplot A
- C. Scatterplot B

2 -

- A. Scatterplot A
- B. Scatterplot C
- C. Scatterplot B

3 - most variation explained

- A. Scatterplot B
- B. Scatterplot C
- C. Scatterplot A

Answer(s) submitted:

-
-
-

(incorrect)

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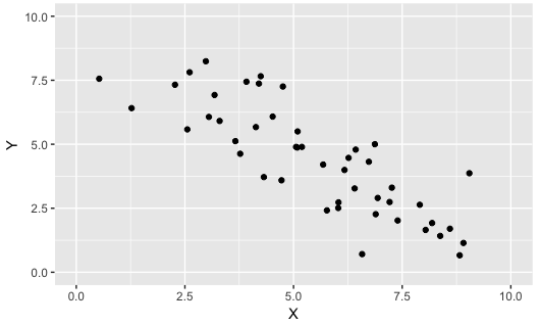
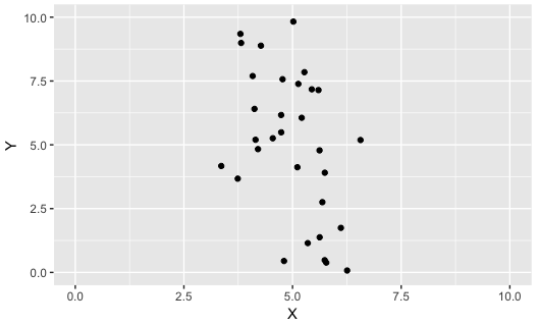
13. **(1 point)** `carroll_problib/statistics/regression/5.2.6.pg`

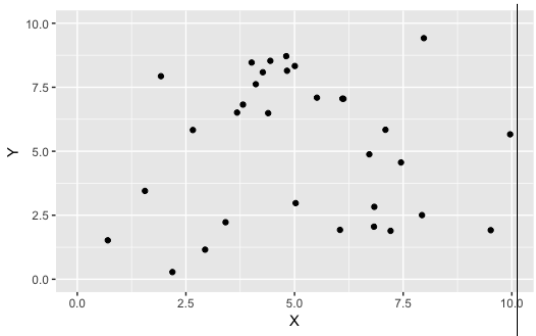


Scatterplot A:

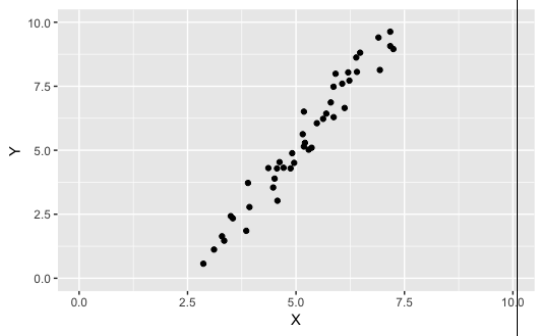


Scatterplot B:

Scatterplot C:



Scatterplot D:



Place the scatterplots in order of the slope of the corresponding best-fit lines, where 1 = smallest slope and 4 = largest slope.

1 - smallest slope

- A. Scatterplot C
- B. Scatterplot D
- C. Scatterplot B
- D. Scatterplot A

2 -

- A. Scatterplot C
- B. Scatterplot B
- C. Scatterplot D
- D. Scatterplot A

3-

- A. Scatterplot D
- B. Scatterplot B
- C. Scatterplot A
- D. Scatterplot C

4 - largest slope

- A. Scatterplot B
- B. Scatterplot A
- C. Scatterplot D
- D. Scatterplot C

Answer(s) submitted:

-
-
-
-

(incorrect)

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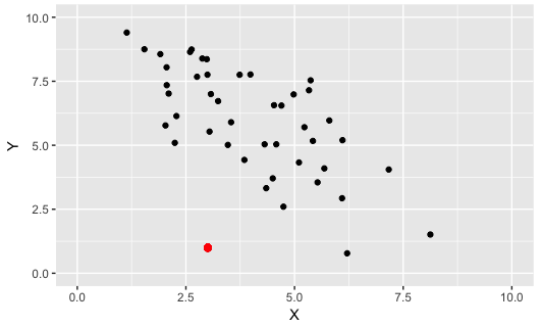
14. **(1 point)** `carroll_problib/statistics/regression/5.2.7.pg`



The scatterplots above contains a highlighted (red) data point.

In the scatterplot, the red data point is

- A. neither an outlier nor a leverage point
- B. an outlier
- C. both an outlier and a leverage point
- D. a leverage point

This point

- A. probably doesn't have a large impact on the regression line, due to it's horizontal placement.
- B. should be thrown out of the regression
- C. probably has a large impact on the regression line, due to it's horizontal placement.
- D. probably doesn't have a large impact on the regression line, since it is an influence point.

Answer(s) submitted:

-
-

(incorrect)

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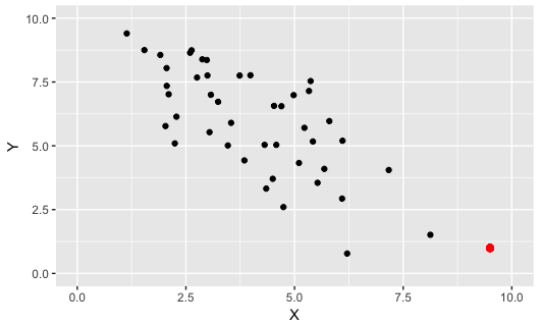
15. **(1 point)** `carroll_problib/statistics/regression/5.2.8.pg`



The scatterplot above contains a highlighted (red) data point.

In the scatterplot, the red data point is

- A. an outlier
- B. both an outlier and a leverage point
- C. neither an outlier nor a leverage point
- D. a leverage point

This point

- A. probably has a large impact on the regression line, due to it's horizontal placement.
- B. probably has a large impact on the regression line, due to its vertical placement.
- C. should be thrown out of the regression
- D. probably doesn't have a large impact on the regression line, due to it's vertical placement.

Answer(s) submitted:

-
-

(incorrect)

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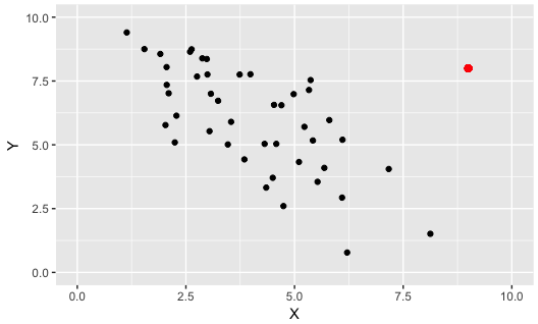
16. **(1 point)** `carroll_problib/statistics/regression/5.2.9.pg`



The scatterplot above contains a highlighted (red) data point. In the scatterplot, the red data point is

- A. both an outlier and a leverage point
- B. an outlier
- C. a leverage point
- D. neither an outlier nor a leverage point

This point

- A. should be thrown out of the regression
- B. probably has a large impact on the regression line, due to it's location.
- C. probably doesn't have a large impact on the regression line, since it is an influence point.
- D. probably doesn't have a large impact on the regression line, due to it's location.

Answer(s) submitted:

-
-

(incorrect)

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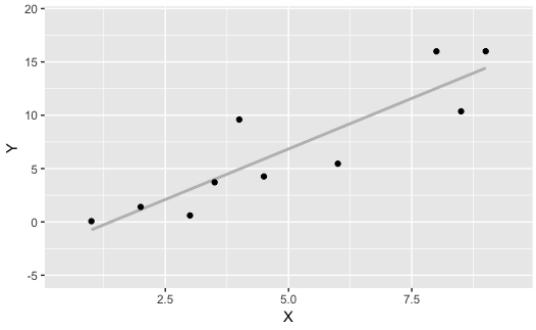
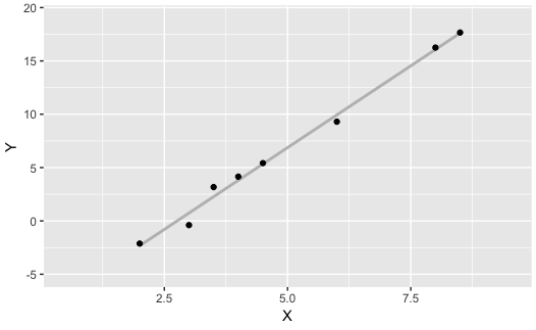
17. **(1 point)** `carroll_problib/statistics/regression/5.2.10.pg`

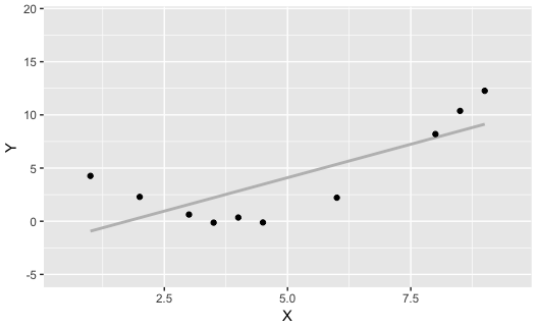
Scatterplot A:



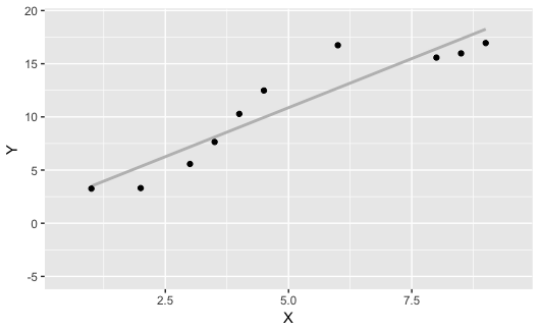
Scatterplot B:



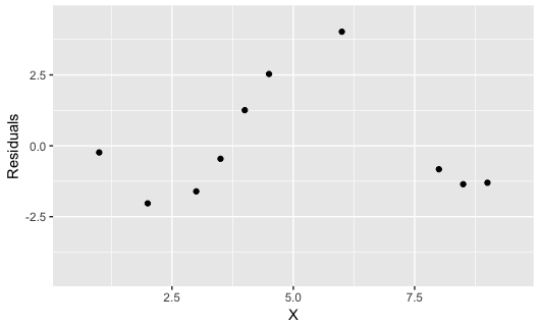
Scatterplot C:

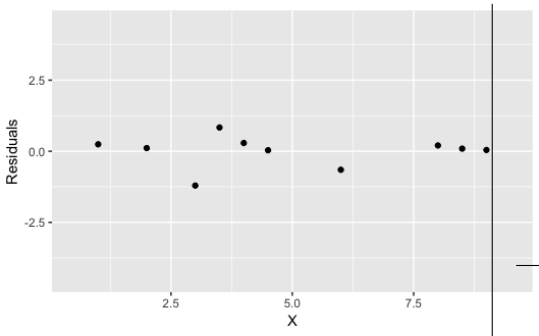


Scatterplot D:

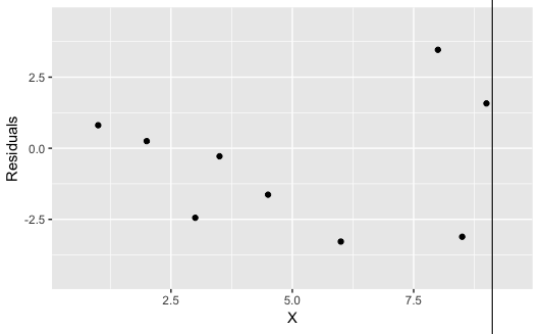


Residual plot A:

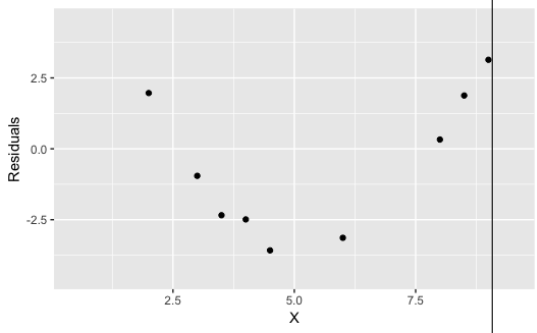




Residual plot B:



Residual plot C:



Residual plot D:

Decide which residual plot corresponds to each scatterplot. Mark your answers below.

Scatterplot A

- A. Residual plot A
- B. Residual plot D
- C. Residual plot B
- D. Residual plot C

Scatterplot B

- A. Residual plot D
- B. Residual plot A
- C. Residual plot B
- D. Residual plot C

Scatterplot C

- A. Residual plot B
- B. Residual plot A
- C. Residual plot D
- D. Residual plot C

Scatterplot D

- A. Residual plot B
- B. Residual plot C
- C. Residual plot A
- D. Residual plot D

Answer(s) submitted:

-
-
-
-

(incorrect)

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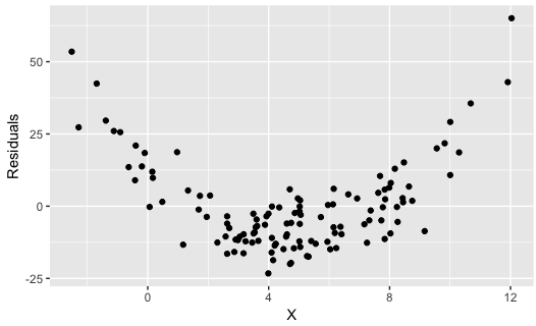
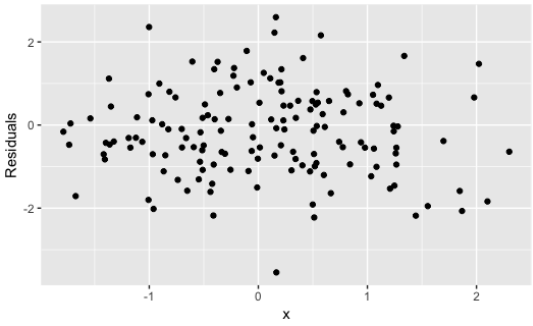
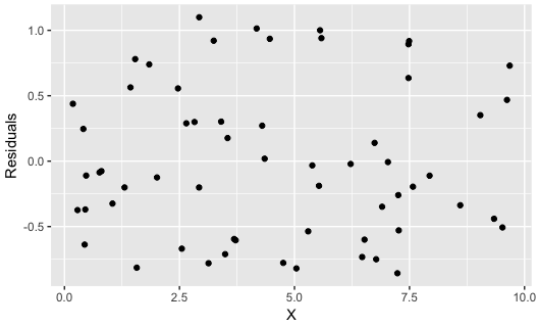
18. **(1 point)** `carroll_problib/statistics/regression/5.3.1.pg`



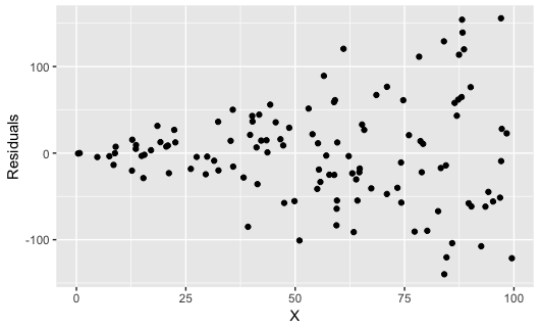
Residual plot A:



Residual plot B:



Residual plot C:



Residual plot D:

The graphics above show four different residual plots you might encounter when performing linear regression. In each

case, determine whether linear regression is appropriate, and if not - tell which assumption is violated.

Scatterplot A

- A. Linear Regression seems to be appropriate in this case.
- B. Linear Regression is NOT appropriate: the data shows a nonlinear trend.
- C. Linear Regression is NOT appropriate: the variability of residuals seems to be increasing from left to right.
- D. Linear Regression is NOT appropriate: the y-values of the residuals are not normally distributed.

Scatterplot B

- A. Linear Regression seems to be appropriate in this case.
- B. Linear Regression is NOT appropriate: the y-values of the residuals are not normally distributed.
- C. Linear Regression is NOT appropriate: the data shows a nonlinear trend.
- D. Linear Regression is NOT appropriate: the variability of residuals seems to be increasing from left to right.

Scatterplot C

- A. Linear Regression is NOT appropriate: the variability of residuals seems to be increasing from left to right.
- B. Linear Regression seems to be appropriate in this case.
- C. Linear Regression is NOT appropriate: the y-values of the residuals are not normally distributed.
- D. Linear Regression is NOT appropriate: the data shows a nonlinear trend.

Scatterplot D

- A. Linear Regression is NOT appropriate: the y-values of the residuals are not normally distributed.
- B. Linear Regression is NOT appropriate: the variability of residuals seems to be increasing from left to right.
- C. Linear Regression is NOT appropriate: the data shows a nonlinear trend.
- D. Linear Regression seems to be appropriate in this case.

Answer(s) submitted:

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(incorrect)

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19. **(1 point)** `carroll_problib/statistics/regression/5.3.2.pg`

A standardized test preparation service wants to test the effectiveness of a new study technique. They ask 25 students to take a standardized test and record the student scores. They then prepare those same 25 students using their new study technique. Afterwards, the students take the standardized test again. The results are presented in the table below.

Pre-test Score	59	52	44	51	42	42	41	45	27	63	54
Post-test Score	55	62	54	49	65	47	57	35	12	49	80

The correlation coefficient for this data is $r =$ _____

Based on the correlation coefficient, we can say that:

- A. The new technique must not work because some scores decreased.
- B. There is a negative correlation between the pre and post test scores.
- C. There is a positive correlation between the pre and post test scores.
- D. There is no association between the pre and post test scores
- E. The new technique must work because scores increased.

State the equation of the best-fit line for this data:

_____ + _____ * Pre-test Score = Post-test Score

What proportion of the variation in Post-test Score can be explained by Pre-test Score?

_____

We want to test whether this relationship is statistically significant, using the hypotheses:

$H_0 : m = 0$

$H_A : m \neq 0$

where m is the slope of the true regression line between these variables.

What is the standard error for this test? _____

What is the test statistic? _____

What is the p-value? _____

Assuming that the assumptions for an appropriate linear regression have been ment, what is your conclusion?

- A. I fail to reject the null hypothesis; there is not significant evidence that Pre-test Score is a useful predictor of Post-test Score.
- B. I reject the null hypothesis; there is significant evidence that Pre-test Score is a useful predictor of Post-test Score.
- C. I reject the null hypothesis; there is not significant evidence that Pre-test Score is a useful predictor of Post-test Score.
- D. I fail to reject the null hypothesis; there is significant evidence that Pre-test Score is a useful predictor of Post-test Score.

Give a 95

_____ to _____

Answer(s) submitted:

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(incorrect)

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20. **(1 point)** carroll_problib/statistics/regression/5.3.3.pg

The data set **MarriageAge.csv** contains information about the average age for first marriages for both males and females in various countries over the past 40 years. We are interested in determining how the average age at first marriage for women and for men are related.

State the equation of the best-fit line for this data:

_____ + _____ *FemaleMarriageAge = MaleMarriageAge

What percent of the variation in age at first marriage for men can be explained by examining the age at first marriage for women?

_____

We want to test whether this relationship is statistically significant, using the hypotheses:

$H_0 : m = 0$

$H_A : m \neq 0$

where m is the slope of the true regression line between these variables.

What is the standard error for this test? _____

What is the test statistic? _____

What is the p-value? _____

Give a 95

_____ to _____

Answer(s) submitted:

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(incorrect)

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21. **(1 point)** carroll_problib/statistics/regression/5.3.4.pg

age$_v s_t ech.csv$

The data set linked above contains information about the average age for first marriages for women in various countries over the past 40 years and the number of women working in STEM fields in those countries. We are interested in determining if the average age at first marriage for women would be useful in predicting the number of women who work in STEM fields.

State the equation of the best-fit line for this data:

_____ + _____ * FemaleMarriageAge = NumWomeninTechFields

What percent of the variation in the number of women working in tech fields can be explained by examining female age at first marriage?

_____

We want to test whether this relationship is statistically significant, using the hypotheses:

$H_0 : m = 0$

$H_A : m \neq 0$

where m is the slope of the true regression line between these variables.

What is the standard error for this test? _____

What is the test statistic? _____

What is the p-value? _____

Assuming that the assumptions for an appropriate linear regression have been ment, what is your conclusion?

- A. I reject the null hypothesis; there is significant evidence that FemaleMarriageAge is a useful predictor of NumWomeninTechFields.
- B. I fail to reject the null hypothesis; there is not significant evidence that FemaleMarriageAge is a useful predictor of NumWomeninTechFields.
- C. I reject the null hypothesis; there is not significant evidence that FemaleMarriageAge is a useful predictor of NumWomeninTechFields.
- D. I fail to reject the null hypothesis; there is significant evidence that FemaleMarriageAge is a useful predictor of NumWomeninTechFields.

Answer(s) submitted:

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(incorrect)

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22. **(1 point)** carroll_problib/statistics/regression/5.3.5.pg

Education$_v s_M ortality.csv$

The data set linked above contains information about the proportion of the population with a primary education in various countries over the past 40 years and the infant mortality rate in those countries. We are interested in determining if primary education proportion would be useful in predicting infant mortality rates.

State the equation of the best-fit line for this data:

_____ + _____ * PropPrimaryEdu = InfantMortalityRate

What proportion of the variation in infant mortality rates can be explained by examining proportion of the population with a primary education level?

_____

We want to test whether this relationship is statistically significant, using the hypotheses:

$H_0 : m = 0$

$H_A : m \neq 0$

where m is the slope of the true regression line between these variables.

What is the standard error for this test? _____

What is the test statistic? _____

What is the p-value? _____

Assuming that the assumptions for an appropriate linear regression have been ment, what is your conclusion?

- A. I reject the null hypothesis; there is significant evidence that PropPrimaryEdu is a useful predictor of InfantMortalityRate.
- B. I fail to reject the null hypothesis; there is not significant evidence that PropPrimaryEdu is a useful predictor of InfantMortalityRate.
- C. I fail to reject the null hypothesis; there is significant evidence that PropPrimaryEdu is a useful predictor of InfantMortalityRate.
- D. I reject the null hypothesis; there is not significant evidence that PropPrimaryEdu is a useful predictor of InfantMortalityRate.

Answer(s) submitted:

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(incorrect)

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23. **(1 point)** carroll_problib/statistics/regression/5.3.6.pg

Is the budget of a movie a good predictor of gross box office receipts?

Use the data set **IMDB.csv** to answer this question.

State the equation of the best-fit line for this data:

_____ + _____ * budget = gross

What percent of the variation in gross box office receipts can be explained by examining movie budgets?

_____

We want to test whether this relationship is statistically significant, using the hypotheses:

$H_0 : m = 0$

$H_A : m \neq 0$

where m is the slope of the true regression line between these variables.

What is the standard error for this test? _____

What is the test statistic? _____

What is the p-value? _____

Give a 95

_____ to _____

Answer(s) submitted:

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(incorrect)

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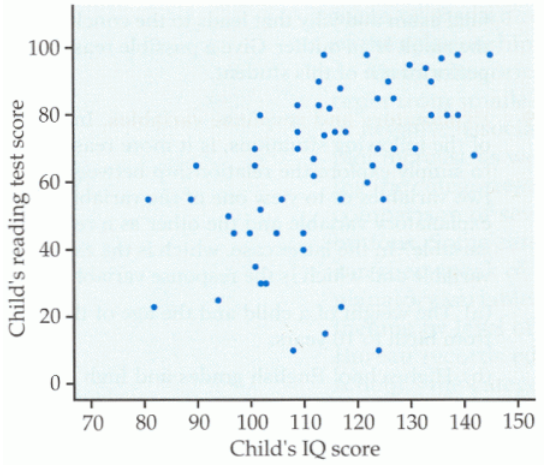
24. **(1 point)** carroll_problib/statistics/regression/correlation3.pg

The scatterplot below shows data from a study of 60 randomly selected fifth-grade children.



Which is the explanatory variable?

- A. Child's reading test score
- B. Child's IQ Score

How would you classify the form of this relationship?

- A. There is a linear relationship.
- B. There is a nonlinear relationship.

How would you classify the direction of this relationship?

- A. There is a negative association.
- B. There is a positive association.

How would you classify the strength of this relationship?

- A. This relationship is very strong.
- B. This relationship is weak.

Answer(s) submitted:

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(incorrect)

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25. **(1 point)** carroll_problib/statistics/regression/problem01.pg

The formula for a regression equation based on a sample size of 62 observations is $\hat{y} = 6x + 5$.

(a) What would be the predicted score for a person scoring 14 on x? _____

(b) If someone's predicted score $\hat{y}$ was 33, what was this person's score on x? _____

(Relevant section: **Introduction to Linear Regression**)

Answer(s) submitted:

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(incorrect)

26. **(1 point)** carroll_problib/statistics/regression/problem02.pg

Listed below are altitudes (thousands of feet) and outside air temperatures (in degrees Fahrenheit) recorded on a recent flight.

Altitude	3	10	14	22	28	31	33
Temperature	57	37	24	-5	-30	-41	-54

If x represents the altitude (in thousands of feet) of a plane, then the line of regression for this data is $y =$ _____.

Using the regression line, we would predict that the temperature at 26 thousand feet would be _____.

(Relevant section: **Introduction to Linear Regression**)

Answer(s) submitted:

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(incorrect)

27. **(1 point)** carroll_problib/statistics/regression/problem03.pg

In March 2002, ¡i¿Consumer Reports¡/i¿ reviewed several models of inkjet printers. Shown are the speed of the printer (in pages per minute) and the cost per page printed.

Speed (ppm)	4.6	5.5	4.5	3.8	4.6	3.7	4.7	4.7	4	3.1	1.9	2.2	1.8	2	2
Cost (cents/page)	12.3	8.8	6.5	3.7	2.9	4.3	6.1	8.4	9.7	15.2	2.9	4.6	4.9	15.1	4.7

Copy and paste the data into Excel. The linear regression equation for this data is $y =$ _____

Is there evidence of an association between speed and cost?

- A. Yes
- B. No
- C. Maybe

(Relevant section: **Introduction to Linear Regression**)

Answer(s) submitted:

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(incorrect)

28. **(1 point)** carroll_problib/statistics/regression/problem04.pg

Researchers at the University of Denver Infant Study Center wondered if temperature might influence the age at which babies learn to crawl. Data were collected on 208 boys and 206 girls. Parents reported the month of the baby's birth and the age (in weeks) at which their child first crawled. The table above gives the average temperature (in degrees Fahrenheit) when the babies were 6 months old and the average crawling age (in weeks) for each month of the year.

Month	January	February	March	April	May	
6-Month Temperature	66	73	72	63	52	
Average Crawling Age	28.59	29.27	28.45	30.59	27.33	3

Copy and paste the data into Excel. The linear regression equation for this data is $y =$ _____

Is there evidence of an association between the 6-month temperature and the average crawling age?

- A. Yes
- B. No
- C. Maybe

(Relevant section: **Introduction to Linear Regression**)

Answer(s) submitted:

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(incorrect)

29. **(1 point)** carroll_problib/statistics/regression/problem05.pg

A standardized test preparation service wants to test the effectiveness of a new study technique. They ask 25 students to take a standardized test and record the student scores. They then prepare those same 25 students using their new study technique. Afterwards, the students take the standardized test again. The results are presented in the table below.

Pre-test Score	59	52	44	51	42	42	41	45	27	63	54	
Post-test Score	62	69	61	56	72	54	64	42	19	56	87	6

Using linear regression, find the predicted post-test score for someone with a score of 57 on the pre-test. _____ (Round to the nearest tenth.)

Answer(s) submitted:

-

(incorrect)