MATH 1342

Homework 5 (Chapter 5)

Instructions: Answer all questions through the EMCF tab of casa under the assignment named "Homework 5" before the deadline.

There is no "Submit" button. Your answers will be automatically submitted once the deadline arrives.

Assignments will be graded out of 10 points.

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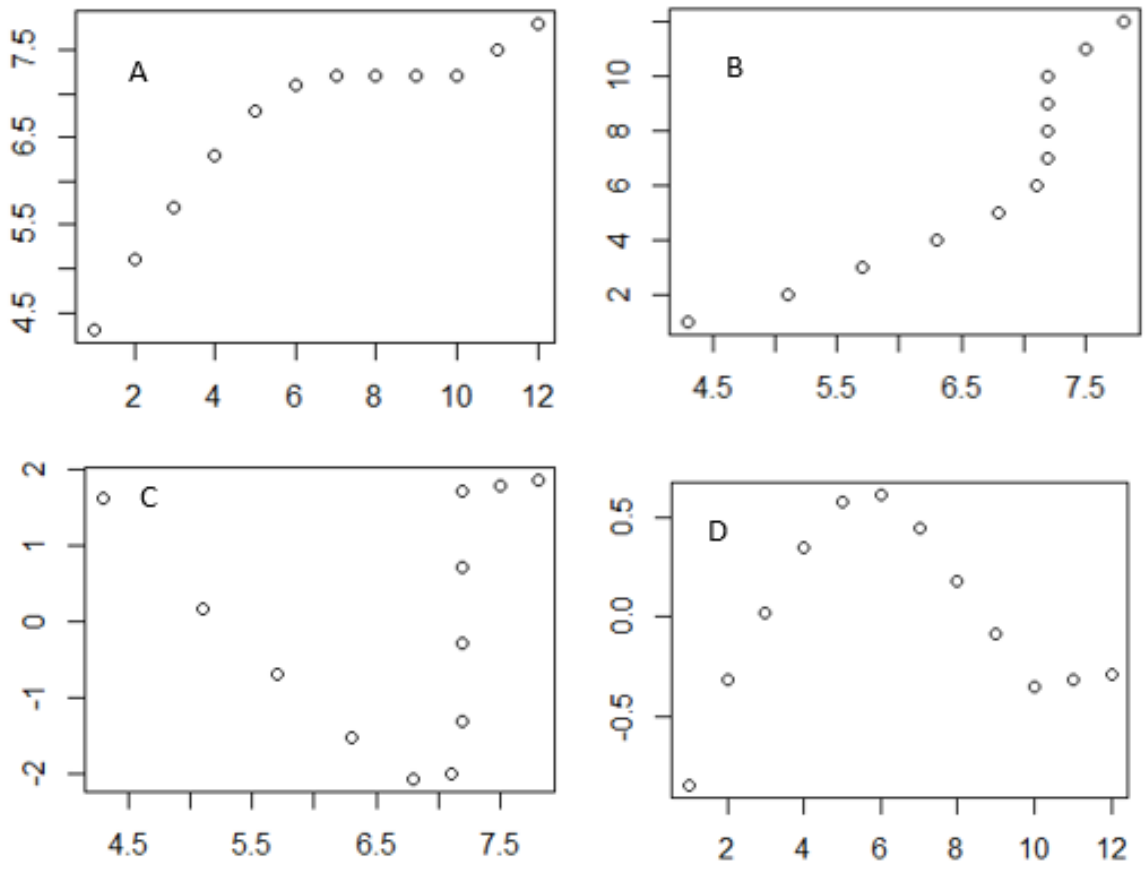
1. Section 5.1; Problem 10 (a)



E. None of the above options.

2. Section 5.1; Problem 10 (b, c)

A. There is a positive linear trend between the two variables.

B. There is a negative linear trend between the two variables.

C. There is a positive non-linear trend between the two variables.

D. There is a negative non-linear trend between the two variables.

E. There is no trend between the variables.

3. Section 5.2; Problem 2 (correlation coefficient value)

A. -0.9875 B. -0.6773 C. 0.0032 D. 0.6773 E. 0.9875

4. Section 5.2; Problem 2 (correlation coefficient interpretation)

A. There is a strong positive relationship between the variables.

B. There is a weak positive relationship between the variables.

C. There is a strong negative relationship between the variables.

D. There is a weak negative relationship between the variables.

E. There is no relationship between the variables.

5. Section 5.3; Problem 11

A. $\hat{y} = 2.405x - 24.175$ B. $\hat{y} = 2.405x - 1.661$

C. $\hat{y} = 0.403x + 14.873$ D. $\hat{y} = 0.856x + 0.403$

E. $\hat{y} = 0.403x + 0.856$

6. Section 5.3; Problem 16

A. There is an increase of 3.41 chirps per minute for every one degree increase of temperature.

B. There is an increase of 1 chirp per minute for every 3.41 degree increase in temperature.

C. There is an increase of 3.41 chirps per minute for every 50 degree increase in temperature.

D. There is an increase of 10.53 chirps per minute for every one degree increase in temperature.

E. There is an increase of 10.53 chirps per minute for every 3.41 degree increase in temperature.

7. Section 5.4; Problem 2

A. 196 B. 2484.95 C. -2484.95

D. 112.9 E. No Residual Available

8. Section 5.4; Problem 3

A. Due to the pattern in the residual plot, the LSRL is a good fit for the data.

B. Due non-linear nature of the residual plot, we can conclude that the LSRL is a not a good fit to the data.

C. Due to the pattern in the residual plot, the LSRL is not a good fit for the data.

D. Since, for large values of x, the residual plot is increasing, we know that the LSRL must have a positive slope.

E. The residual plot cannot be used to determine the accuracy or lack of accuracy in the model that created it.

9. Section 5.5; Problem 2 (b) (Construction of non-linear model)

Note: Based on the system you use, you may get different formats of your answer. The left and right column answers are equivalent.

A. $\hat{y} = e^{148.925x - 0.07881}$ or $\hat{y} = (1.082 \times 10^{-65})2.1027^x$

B. $\hat{y} = e^{0.07881x - 148.925}$ or $\hat{y} = (2.1027 \times 10^{-65})1.082^x$

C. $\hat{y} = e^{0.07881x + 148.925}$ or $\hat{y} = (2.1027 \times 10^{-65})0.922^x$

D. $\hat{y} = e^{-0.07881x - 148.925}$ or $\hat{y} = (-2.1027 \times 10^{-65})1.082^x$

E. None of the above models.

10. Section 5.6; Problem 4 (b)