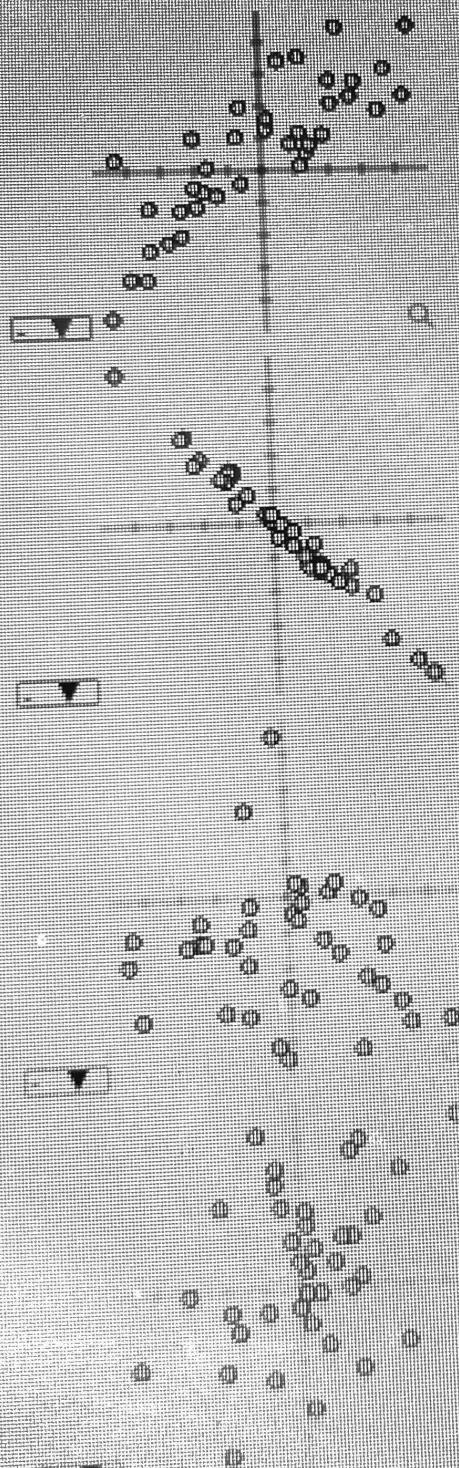


HW E13 - Linear Regression

Score: 0/14 0/7 answered

Question 1

Match each scatterplot shown below with one of the four specified correlations.



a. -0.12

b. 0.38

c. 0.84

d. -0.99

HW E13 - Linear Regression

Score: 0/14 0/7 answered

● Question 2

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Annual high temperatures in a certain location have been tracked for several years. Let X represent the year and Y the high temperature. Based on the data shown below, calculate the regression line (each value to two decimal places).

$$y = \boxed{} x + \boxed{}$$

x	y
1	8.4
2	10.8
3	11.7
4	12.2
5	12.6
6	14.1
7	12.6
8	13.5
9	14.8

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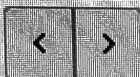
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HW E13 - Linear Regression

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● Question 3 ▼



A researcher wishes to examine the relationship between years of schooling completed and the number of pregnancies in young women. Her research discovers a linear relationship, and the least squares line is: $\hat{y} = 3 - 4x$ where x is the number of years of schooling completed and y is the number of pregnancies. The slope of the regression line can be interpreted in the following way:

- ☐ When amount of schooling increases by one year, the number of pregnancies decreases by 4.
- ☐ When amount of schooling increases by one year, the number of pregnancies increases by 3.
- ☐ When amount of schooling increases by one year, the number of pregnancies decreases by 3.
- ☐ When amount of schooling increases by one year, the number of pregnancies increases by 4.

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● Question 4

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Annual high temperatures in a certain location have been tracked for several years. Let X represent the year and Y the high temperature. Based on the data shown below, calculate the correlation coefficient (to three decimal places) between X and Y . Use your calculator!

x	y
4	54.51
5	52.54
6	48.07
7	45.6
8	41.23
9	42.46
10	36.19
11	36.92
12	33.55
13	31.08
14	29.01
15	26.44
16	21.77
17	19.6

$r =$

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● Question 5 ▾

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Annual high temperatures in a certain location have been tracked for several years. Let X represent the year and Y the high temperature. At the 0.05 significance level, does the data below show significant (linear) correlation between X and Y ?

x	y
4	23.1
5	22.75
6	22.7
7	21.85
8	32.9
9	26.75
10	35
11	39.05
12	33.1
13	28.45
14	31.4
15	32.85
16	37
17	37.05
18	38.5

- ☐ Yes, significant correlation
- ☐ No

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HW E13 - Linear Regression

Score: 0/14 0/7 answered

Question 6

To compare textbook prices at the two most popular online booksellers, a Statistics student gathered information about 14 college textbooks from Amazon.com and bn.com on November 25, 2006. For each book, she recorded the name of the principal author, the title, the ISBN, the Amazon selling price (in dollars) and the B&N selling price (in dollars):

author	title	ISBN	Amazon	B&N
De Veaux	<i>Intro Stats</i>	321286715	120.67	103.20
Christensen	<i>Introduction to Statistics</i>	155459651	164.95	155.95
Thomas	<i>Calculus</i>	321185587	154.67	152.00
Stewart	<i>Calculus</i>	534393217	153.98	155.75
Simmons	<i>Calculus with Analytic Geometry</i>	70576424	150.00	159.75
Alexander	<i>American Public School Law</i>	534274242	128.95	115.85
Miller	<i>Business Law Today</i>	324204841	108.95	103.95
Cheeseman	<i>Business Law</i>	131984934	166.67	159.60
Berg	<i>Biochemistry</i>	716787245	149.95	148.91
Raymond	<i>General Organic and Biological Chemistry</i>	471447072	95.95	98.95
Atkins	<i>Chemical Principles</i>	071675701X	141.95	139.75
Warren	<i>Financial & Managerial Accounting</i>	324188013	158.95	145.95
Kieso	<i>Intermediate Accounting, Vol. 1</i>	471771929	102.95	107.00
Garrison	<i>Managerial Accounting</i>	72834943	134.60	147.96

Compute the correlation between Amazon price and B&N price for these textbooks (Assume the correlation conditions have been satisfied and round your answer to the nearest 0.001.)

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HW E13 - Linear Regression

Score: 0/14 0/7 answered

● Question 7



A regression was run to determine if there is a relationship between hours of TV watched per day (x) and number of situps a person can do (y).

The results of the regression were:

$$y = ax + b$$

$$a = -0.891$$

$$b = 25.218$$

$$r^2 = 0.515524$$

$$r = -0.718$$

Use this to predict the number of situps a person who watches 1.5 hours of TV can do (to one decimal place)

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