

Lecture #003 Pages (12 - 14)

Due Feb 6 at 5pm

Points 10

Questions 4

Available Jan 30 at 12am - Feb 13 at 11:59pm

Time Limit None

Allowed Attempts Unlimited

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	4,966 minutes	10 out of 10

Score for this attempt: **10** out of 10

Submitted Feb 4 at 8:07pm

This attempt took 4,966 minutes.

Question 1

2.5 / 2.5 pts

The members of a health spa pay annual membership dues of \$300 plus \$1 for each visit to the spa.

Describe the relationship between the number of visits by a member during the year and the total cost of membership.

c002.p0250.q003

Correct!

☒ Functional

☐ Statistical

Question 2**2.5 / 2.5 pts**

You are given the follow information about a regression model:

For each value of X between -8.8 and 18.7 the response variable Y at X has a Normal distribution with mean $9X+5$ and standard deviation 1.

Determine the probability that Y is greater than 59.6 when X equals 6.

c002.p0260.q008

Correct!**Correct Answer**

0.2743 margin of error +/- 0.01

Question 3**2.5 / 2.5 pts**

A simple linear regression model is used to relate a response variable Y and a predictor X.

The relation is $Y = 5.5 + 6.4 X + \epsilon$.

Determine the expected value of the response when X equals 2.

c003.p0280.q001

Correct!**Correct Answer**

18.3 margin of error +/- 0.01

Question 4**2.5 / 2.5 pts**

A simple linear regression model is used to relate a response variable Y and a predictor X. In matrix form, according to the model, the response is related to the predictor as follows:

$$\begin{bmatrix} 23 \\ 62 \\ 36 \\ 12 \\ 63 \end{bmatrix} = \begin{bmatrix} 1 & 25 \\ 1 & 93 \\ 1 & 29 \\ 1 & 8.1 \\ 1 & 4.2 \end{bmatrix} \begin{bmatrix} \beta_0 \\ \beta_1 \end{bmatrix} + \begin{bmatrix} \epsilon_1 \\ \epsilon_2 \\ \epsilon_3 \\ \epsilon_4 \\ \epsilon_5 \end{bmatrix}$$

Determine Y_2

c003.p0280.q008

Correct!

Correct Answer

62

Quiz Score: **10** out of 10