

# Bonus Quiz

Due	No due date	Points	10	Questions	10	Time Limit	30 Minutes
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## Instructions

This 'Bonus' quiz is designed to give you a chance to earn back up to 10 points. With the +/- grading system many students end up close to the next letter grade, this quiz will provide the final say on where your grade lies. Point totals are provided in the PDF syllabus, and your grades are determined by those point totals.

This quiz also acts as a 'smoother' over a question or two that you might not have liked how I graded, and an 'eraser' if you had to miss a discussion board or made a silly mistake on a problem or two on your final exam.

The quiz is open book, but it will have a time limit of 30 minutes.

Since I have provided these bonus points, we will not be scavenging for points when it comes time to compute the final grades.

## Attempt History

	Attempt	Time	Score
LATEST	<a href="#">Attempt 1</a>	28 minutes	8 out of 10

Score for this quiz: 8 out of 10  
Submitted Nov 28 at 10:10pm  
This attempt took 28 minutes.

Question 1	0 / 1 pts
When working in an analytics position at a company, most of your data will be generated by:	
<div><input type="radio"/> a designed experiment</div> <div><input type="radio"/> a robot</div>	

Correct Answer

☐ retrospective sampling

You Answered

☒ an observational study

## Question 2

1 / 1 pts

Linear regression:

Correct!

☒ requires that the model is specified to be linear in the parameters.

☐ requires that the relationship between the predictor variable and the response variable be linear.

☐ requires that an intercept be included in the model.

☐ can be used correctly on to fit a model with a response variable that takes only the two values 0 and 1.

## Question 3

1 / 1 pts

The estimation procedures for factor analysis produce a unique solution.

☐ True

Correct!

☒ False

## Question 4

1 / 1 pts

Factor analysis, principal components analysis, and cluster analysis are statistical methods that are commonly referred to as:

- ☐ generalized linear models
- ☐ supervised learning
- ☐ regression
- ☒ unsupervised learning

Correct!

### Question 5

1 / 1 pts

Statistical methods that are affected by the scale of the predictor variables include:

\* Note the word 'affected' means that the scale of the predictor variables will change the 'answer', 'solution', or estimated output in a qualitative sense, not just the scale of the estimated output.

- ☐ principal components analysis
- ☐ factor analysis using the correlation matrix
- ☐ linear regression
- ☒ both principal components analysis and cluster analysis

Correct!

### Question 6

1 / 1 pts

Factor rotations are used to:

Correct!

- ☐ improve the interpretability of a factor solution.
- ☐ search for a simple factor structure.
- ☐ produce uncorrelated (orthogonal) factors.
- ☒ improve the interpretability of a factor solution, search for a simple factor structure, produce uncorrelated (orthogonal) factors.

### Question 7

0 / 1 pts

In linear regression the R-Squared value is computed in the same manner whether or not the model contains an intercept.

You Answered

☒ True

Correct Answer

☐ False

### Question 8

1 / 1 pts

While both factor analysis and principal components analysis can be used to reduce the dimension of multivariate data, their modeling objectives are different.

Correct!

☒ True

☐ False

### Question 9

1 / 1 pts

All cluster analysis methods will yield the same clusters on a particular data set.

☐ True

☒ False

Correct!

### Question 10

1 / 1 pts

Cluster analysis can be used as:

☐ a segmentation technique when class labels are not present.

☐ a predictive modeling technique when class labels are present.

☐ a method to fit linear models.

☒ a predictive modeling technique when class labels are present and a segmentation technique when class labels are not present.

Correct!

Quiz Score: **8** out of 10