**Exam 3**

* **Due** May 21 at 11:59pm

* **Points** 50

* **Questions** 17

* **Available** May 15 at 12am - May 21 at 11:59pm

* **Time Limit** 180 Minutes

**Instructions**

All exams are cumulative.  You have 180 minutes to complete the exam. You must show all your work in order to earn full credit.

This quiz was locked May 21 at 11:59pm.

Attempt History

|  | **Attempt** | **Time** | **Score** |
| --- | --- | --- | --- |
| **LATEST** | [Attempt 1](https://ilearn.laccd.edu/courses/223092/quizzes/1769885/history?version=1) | 46 minutes | 29 out of 50 \* |

*\** Some questions not yet graded

 Correct answers are no longer available.

Score for this quiz: **29** out of 50 \*

Submitted May 19 at 7:59pm

This attempt took 46 minutes.

**Question 1**

**1 / 1 pts**

A scatter diagram



is also called a random distribution frequency plot.



is a bar graph that shows the frequencies of the different values in a distribution.



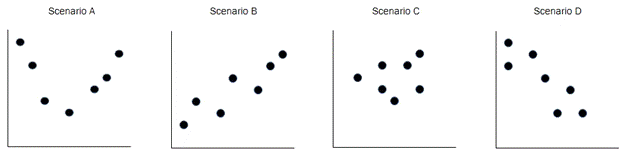
is a line graph that looks like a mountain-peak skyline and shows the frequencies of the different values in a distribution.



shows the relation of two variables as dots in a two-dimensional graph.

**Question 2**

**1 / 1 pts**

The items below are based on the following scenarios.  
  
  
  
Which graph depicts a negative correlation?



Scenario B



Scenario A



Scenario D



Scenario C

**Question 3**

**1 / 1 pts**

The difference between a positive correlation and a negative correlation is that



in a negative correlation, high scores go with high scores and low with low; in a positive correlation, high scores go with low scores and low with high.



negative correlations represent a weak relationship; positive correlations represent a strong relationship.



in a negative correlation, high scores go with low scores and low with high; in a positive correlation, high scores go with high scores and low with low.



negative correlations are curvilinear; positive correlations are straight lines.

**Question 4**

**1 / 1 pts**

When figuring a correlation coefficient, the absolute value of the summed cross-products



gets smaller as the variance of the scores for each variable increases.



gets larger when the scores of more people are included in the analysis.



is negative when the scores of large numbers of people are included in the analysis.



gets larger as the measurement scale for each variable becomes more restricted.

**Question 5**

**1 / 1 pts**

When is the correlation coefficient zero?



when there is no linear correlation



never



when there is a perfect positive linear correlation



when there is a perfect negative linear correlation

**Question 6**

**1 / 1 pts**

If the correlation between two personality traits is .07, the correlation is considered a



weak positive linear correlation.



strong negative linear correlation.



strong positive linear correlation.



weak negative linear correlation.

**Question 7**

**1 / 1 pts**

​What is indicated by a positive value for a correlation?



​Increases in X tend to be accompanied by increases in Y



​A much stronger relationship than if the correlation were negative



​A much weaker relationship than if the correlation were negative



​Increases in X tend to be accompanied by decreases in Y

**Question 8**

**1 / 1 pts**

​A researcher measures IQ and weight for a group of college students. What kind of correlation is likely to be obtained for these two variables?



​A correlation near one



​A correlation near zero



​A positive correlation



​A negative correlation

**Question 9**

**8 / 8 pts**

​What is the correlation coefficient for the following set of data?

X   Y

14   82

18   82

10   70



-.86



.86



​-.92



​.92

**Question 10**

**8 / 8 pts**

​What is the correlation coefficient for the following set of data?

X   Y

4   0

6   1

​8   3

2   0



.86



.92



​-.92



​-.86

**Question 11**

**1 / 1 pts**

​For an ANOVA comparing three treatment conditions, what is stated by the null hypothesis (*H*0)?



​All three of the population means are different from each other.



​There are no differences between any of the population means.



​At least one of the three population means is different from another mean.



​None of the other choices is correct.

**IncorrectQuestion 12**

**0 / 1 pts**

​In an ANOVA, what is represented by the letter *N*?



​The sum of the scores in the total research study



​The sum of the scores in a specific treatment



​The number of scores in a specific treatment



​The total number of scores in the entire study

**Question 13**

**1 / 1 pts**

​An analysis of variances produces *df*between = 3 and *df*within = 24. If each treatment has the same number of participants, then how many participants are in each treatment?



​8



​7



​9



​6

**Question 14**

**1 / 1 pts**

​An analysis of variances produces *df*total = 29 and *df*within = 27. For this analysis, what is *df*between?



​3



​2



​Cannot be determined without additional information



​1

**Question 15**

**1 / 1 pts**

​An analysis of variance is used to evaluate the mean differences for a research study comparing four treatments with a separate sample of *n* = 8 in each treatment. If the data produce an *F*-ratio of *F* = 4.60, which of the following is the correct statistical decision?



​Reject the null hypothesis with either *α* = .05 or *α* = .01



​There is not enough information to make a statistical decision



​Reject the null hypothesis with *α* = .05 but not with *α* = .01



​Fail to reject the null hypothesis with either *α* = .05 or *α* = .01

**Question 16**

**1 / 1 pts**

​If an analysis of variance is used for the following data, what would be the effect of changing the value of *M*2 to 25?

       Sample Data

*M*1 = 10     *M*2 = 20

*SS*1 = 90    *SS*2 = 70



​Decrease *SS*between and decrease the *F*-ratio



​Increase *SS*between and decrease the *F*-ratio



​Increase *SS*between and increase the *F*-ratio



​Decrease *SS*between and increase the *F*-ratio

**Question 17**

**Not yet graded / 20 pts**

A psychologist would like to examine the effects of different testing methods on the final performance of college students. One group has regular quizzes, one group has three large exams, and the third group only has a final exam. At the end of the course, the psychologist interviews each student to get a measure of the student’s overall knowledge of the material.

a.  What is your F ratio? You must show all your work. Test with *α* = .05.

                                Quizzes           Exams         Final Only

|  |  |  |
| --- | --- | --- |
| 34 | 27 | 35 |
| 18 | 28 | 44 |
| 21 | 67 | 47 |
| 65 | 42 | 61 |

​

Your Answer:

To generate an ANOVA table, we need to first collect all of the data in a table. In this case, we have G = 36, EX2 = 164, T = 20, T = 12, and T = 4.  
  
Step 2/7  
Next, we need to identify the independent variables. In this case, we have WwT (the weighting variable) and ITotall (the total number of observations).  
  
Step 3/7  
Next, we need to identify the dependent variable. In this case, we have SS (the sum of squares).  
Quizzes Exams Final Only  
4 1 0  
6 4 2 G = 36  
3 5 0 ΣX2= 164  
7 2 2  
  
T = 20 T = 12 T = 4  
SS = 10 SS = 10 SS = 4  
  
a. State the null hypothesis.  
b. Compute the necessary hypothesis test using a two-tailed test with α= .05. Show your calculations.  
c. Make a decision about your null hypothesis. (Include the critical value you used tobase your decision.)  
d. Write an APA format statement summarizing your findings. (Include a measure ofeffect size if necessary.)  
e. Explain what would need to be done next to follow up on any significant effect.

State the null hypothesis.

b. Compute the necessary hypothesis test using a two-tailed test with α = .05. Show your calculations.

c. Make a decision about your null hypothesis. (Include the critical value you used to base your decision.)

d. Write an APA format statement summarizing your findings. (Include a measure of effect size if necessary.)

e. Explain what would need to be done next to follow up on any significant effects.

***22. The following data were collected from a repeated-measures study. (see picture 22)***

a. State the null hypothesis.

b. Compute the necessary hypothesis test using a two-tailed test with a = .05. Show your calculations.

c. Make a decision about your null hypothesis. (Include the critical value you used to base your decision.)

d. Write an APA format statement summarizing your findings. (Include a measure of effect size if necessary.)

e. Explain what would need to be done next to follow up on any significant effects.

***23. The following data were obtained from a two-factor independent-measures experiment with n = 5 participants in each treatment condition. Factor A is Gender and Factor B is rotation, the DV is accuracy. (see question 23 attachment)***

a. State the hypotheses for each of the three separate tests included in the two-factor ANOVA.

b. Draw a graph that would allow you to evaluate the correct means for each of the three hypothesis tests.

c. Predict your decision for each of the three hypothesis tests based on the graphed means. Write a concluding statement for each.

[MathLinks to an external site.](https://www.coursehero.com/sitemap/questions/math-1/2016-march/)[Statistics and ProbabilityLinks to an external site.](https://www.coursehero.com/sitemap/questions/statistics-and-probability-8/2016-march/)

[Links to an external site.](https://www.coursehero.com/register/?login_user_type=question&user_action=flag&user_action_id=9128321)

Share Question

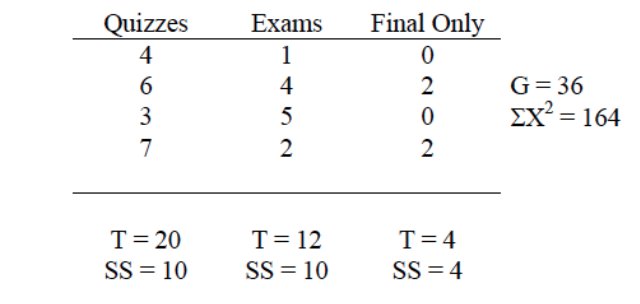
 3 Attachments

View all

* 1

* 2

* 3



Quiz Score: **29** out of 50

[Previous](https://ilearn.laccd.edu/courses/223092/modules/items/14762977)[Next](https://ilearn.laccd.edu/courses/223092/modules/items/14156071)