

# Lecture 13: Test 4 Review

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UAB Mathematics

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## § Test 4 Review

**You must have the  $r$  correlation coefficient table (Table A-6) in order to take Test 4!**

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Say that  $r = 0.95$  for a sample of twenty pairs of data. Would you say there is a linear correlation or not?



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Say that  $r = 0.95$  for a sample of twenty pairs of data. Would you say there is a linear correlation or not? **What else should have been examined before determining the  $r$  correlation coefficient?**

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Can linear regression analysis determine if two variables are causally related? Why or why not?

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## § Test 4 Review

How does  $r^2$  relate to variation in the  $y$  variable?

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When there is no linear correlation between two variables, what is the best predicted value for the output variable given an input? What about the input variable given an output?

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What is being tested in a Goodness-of-Fit test? What kind of test (i.e. what kind of test statistic, degree of freedom, tail) is a Goodness-of-Fit test?

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What kind of test is a Contingency Test?



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What kind of test is a Contingency Test? What kind of test (i.e. what kind of test statistic, degree of freedom, tail) is a Goodness-of-Fit test?

## § Test 4 Review

What's the critical value for a Goodness-of-Fit test if we're testing the claim that a 12-sided die is fair using a sample of 75 rolls of the die?

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What's the critical value for a Goodness-of-Fit test if we're testing the claim that a 12-sided die is fair using a sample of 75 rolls of the die? What's the expected count for each category?

## § Test 4 Review

It's claimed that an equal proportion of students in a school of business major in management, accounting, operations, entrepreneurship, and marketing. A sample of 134 students revealed that the number of students majoring in management, accounting, operations, entrepreneurship, and marketing were, respectively, 27, 25, 23, 30, and 29. Calculate the test statistic which would be used to test this claim.

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What's the difference between a two-way frequency table test and a two-way ANOVA test? What kind of test (i.e. what kind of test statistic, degree of freedom, tail) is a two-way ANOVA test?

## § Test 4 Review

Say we conduct a one-way ANOVA test and determine that the null hypothesis should be rejected. What does this signify for the means under consideration in the test?



## § Test 4 Review

What's the most basic difference between a one- and two-way ANOVA?