

Two Proportion Test Alternative - Resampling

StatCrunch Resampling

Applets > Resampling > Randomization Test for Two Proportions

- *Use the Radio Button for "From Summary."*
- *Fill in the boxes for the sample data in the same way as the two proportion test.*
- *Press Compute to create the applet.*
- *Press the button labeled "1000 times" 10 times to run the simulation 10,000 times.*

For a left-tailed test, the P -value is the proportion of runs that are in the "or below" row.

For a right-tailed test, the P -value is the proportion of runs that are in the "or above" row.

For a two-tailed test, the P -value is the proportion of runs that are in the "Total" row.

Problem 1

Test the claim that the proportion of COS students who are female is greater than the proportion of Fresno State students who are female at the 0.05 level of significance.

A random sample of 40 COS students had 24 female students (60%), while another random sample of 60 Fresno State students had 30 female students (50%).

Problem 2

An instructor claims that students who do paper & pencil math homework are less likely to pass a final exam than students who do online math homework.

From a random sample of 33 students who do paper & pencil math homework contained 16 who passed their final exam.

Another random sample of 90 students who do online math homework had 63 students who passed their final exam.

Test the instructor's claim at the 0.05 level of significance.

Problem 3

A company is developing a new drug to lower a person's cholesterol. A doctor claims that there is no difference between the performance of this new drug and the performance of a placebo.

A random sample of 100 people used the new drug for 6 months and 70 of them reported that their cholesterol was lowered.

Another random sample of 37 people used a placebo for 6 months and 19 of them reported that their cholesterol was lowered.

Test the doctor's claim that there is no difference between the success rates for the new drug and the placebo at the 0.05 level of significance.