Sample Size and Power for Testing Proportions

Use to calculate sample size and power for tests involving one or two sample proportions. For sample size and power calculations for tests involving means, see the page Sample Size and Power for Testing Means.

Sample Size and Power - One Sample Proportion

1. Select DOE > Design Diagnostics > Sample Size and Power and choose One Sample Proportion.
2. Enter the significance level, Alpha (0.05 by default).
3. Enter the Proportion (a “what if” value for the population proportion).
4. Choose the type of test: Two-Sided or One-Sided.
5. Enter the values for one or two of the following: Null Proportion (the value of the proportion that is being tested and specified under H₀), Sample Size and Power.
6. Click Continue.
   - If you entered two values, JMP will calculate the third value, along with the Actual Test Size (the actual significance level).
   - If you enter only one value, JMP will plot the relationship between the other two.

Sample Size and Power- Two Sample Proportions

1. Select DOE > Design Diagnostics > Sample Size and Power and choose Two Sample Proportions.
2. Enter the significance level, Alpha.
3. Enter Proportion 1 and Proportion 2 (“what if” values for the two population proportions).
4. Choose the type of test: Two-Sided or One-Sided.
5. Enter the values for any two of the following:
   - Null Difference in Proportion (the difference in proportions, \( \Delta_0 \), that is being tested and specified under H₀).
   - Sample Size 1 and Sample Size 2 (you do not need the same value for both sample sizes).
   - Power.
6. Click Continue. JMP will calculate the other value(s), and the Actual Test Size.

Notes: All calculations are based on exact methods, which are more reliable for small sample sizes and proportions. For additional information, search for “power and sample size proportions” under Help > Search. To calculate the sample size for the confidence interval for a proportion, use the calculator under Help > Sample Data > Calculators (under Teaching Resources).