Print

Practice: Calculating Sample Size for a One-Sample t Test

You test a new, lower-cost method for producing a component. An important characteristic is the weight in grams. The target weight is 115 g. You plan on conducting a two-tailed one-sample *t* test that the true mean is 115 units.

1. Use the Sample Size and Power platform in JMP to determine the sample size required to detect a difference of 5 g with a power of 0.9. Assume that your standard deviation is 10 g.

   Hint: Select **DOE**, **Design Diagnostics**, **Sample Size and Power**, and then select **One Sample Mean**.

2. What sample size would be required to detect this difference?

   With a standard deviation of 10, an alpha level of 0.05, and a power of 0.9, you'd need 44 observations to detect a difference of 5 g.

3. What sample size would you need to detect a difference of 10 g with the same power?

   You'd need only 13 observations.

Hide Solution

Close