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The objective in hypothesis testing is always to determine whether or not we believe the null hypothesis is true.

Our decision is always based on a sample. Depending on, say, the sample mean, we may decide the null hypothesis is reasonable, or reject it as highly unlikely.

Example

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In hypothesis testing terminology, we would say the null hypothesis is:

$H_0:$ The population mean is 500

And the alternative hypothesis is:

$H_a:$ The population mean is different from 500

Example

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If 500 falls outside the confidence interval, we reject the null hypothesis, which amounts to saying we are skeptical that it is true at the 95% confidence level.

Example 2

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We can easily determine this probability is $.429$. Since this is greater than $.05$, we do not reject the null hypothesis at the 95% level.