mean μ is 55,000, the sample standard deviation s is 3,750, and the sample size n is 61. Substitute these values into the formula to calculate the t test statistic.

tt=56,500-55,0003,750/61- $\sqrt{\approx}3.12$

Now find the p-value. Notice that the test statistic has 61-1=60 degrees of freedom and that this is a right-tailed test because the alternative hypothesis is Ha: μ >55,000. Find the p-value for a right-tailed test of a t-distribution with 60 degrees of freedom, where t \approx 3.12. That is, to find the p-value, find the area under the t-distribution curve with 60 degrees of freedom to the right of t \approx 3.12. The p-value that corresponds to these conditions is approximately 0.001.

Determine the p-value for a hypothesis test for the mean (population standard deviation known)

Ouestion

What is the p-value of a **two-tailed** one-mean hypothesis test, with a test statistic of $z_0=-1.59$? (Do not round your answer; compute your answer using a value from the table below)



The p-value is the probability of an observed value of z=1.59 or greater in magnitude if the null hypothesis is true, because this hypothesis test is two-tailed. This means that the p-value could be less than z=1.59, or greater than z=1.59. This probability is equal to the area under the Standard Normal curve that lies either to the left of z=-1.59, or to the right of z=1.59.

