

Answer on Question #62808 – Math – Statistics and Probability

Question

If $H_0: \mu = 260.50\text{kg}$ with standard deviation at 7.2 and 99% confidence limit, $H_1: \mu > 260.50\text{kg}$, what will be the final conclusion for H_0 ?

Solution

We need the sample mean \bar{x} and sample size n to get the answer. Then, we can calculate test statistic:

$$z = \frac{\bar{x} - \mu_0}{\frac{\sigma}{\sqrt{n}}},$$

where $\mu_0 = 260.50$; $\sigma = 7.2$.

After computing z we need to compare it with the critical Z-value $z_{critical} = 2.326$ for 99% confidence level.

If $z > z_{critical}$ we reject the null hypothesis.

If $z \leq z_{critical}$ we don't reject the null hypothesis.