

Solutions for Friday Quiz 1 - STAT 252

Question 3: The p-value from the TS was less than 0.0001. Explain the type of evidence we have against the null hypothesis. Provide ample context to convey the message. Also, state your decision regarding the null hypothesis.

Solution: Since the p-value from the test statistic is less than 0.0001, we have extremely strong evidence against the null hypothesis. In context, this means the data provides strong support that the average daily step count for users of this fitness tracker is different from 10,000 steps, as claimed by the industry standard. Therefore, we reject the null hypothesis and conclude that the mean number of steps taken by users of this tracker is significantly different from 10,000 steps per day.

Rubric: Interpreting the p-value and stating a decision (Total: 3 points)

Component	Description	Points
Type of Evidence	Clearly explains that a p-value less than 0.0001 indicates very strong/extremely strong evidence against the null hypothesis	1.0
Contextual Explanation	Describes the context: testing the claim about the average daily step count compared to 10,000 steps	1.0
Decision About Null Hypothesis	Clearly states the decision: reject the null hypothesis	1.0