

Answer on Question #79713 – Math – Statistics and Probability

Question

The manager of the supermarket thinks that the probability of a person buying a gigantic chocolate bar is only 0.02 to test whether this hypothesis is true the manager decides to take a random sample of 200 people who bought bars.

1) find the critical region that would enable the manager to test whether or not there is evidence that the probability is different from 0.02. the probability of each tail should be as close to 2.5 % as possible.

2) write down the significance level of this test

Solution

1) $t(0.025, 199) = \pm 1.972$.

So, the critical region: $t < -1.972$ or $t > 1.972$.

2) Significance level: $\alpha = 0.025 * 2 = 0.05$.