

Daily Question – Applied Mathematics - Day 6

Topic Hypothesis Testing

Question

In a manufacturing process 25% of articles are thought to be defective. Articles are produced in batches of 20

- (a) A batch is selected at random. Using a 5% significance level, find the critical region for a two tailed test that the probability of an article chosen at random being defective is 0.25
You should state the probability in each tail which should be as close as possible to 0.025

(5)

The manufacturer changes the production process to try to reduce the number of defective articles. She then chooses a batch at random and discovers there are 3 defective articles.

- (b) Test at the 5% level of significance whether or not there is evidence that the changes to the process have reduced the percentage of defective articles. State your hypotheses clearly.

(5)

(Total 10 marks)