Answer on Question #44241, Math, Statistics and Probability

9.8: Explain what a critical value is, and explain how it is used to test a hypothesis.

Solution.

Suppose that α is the type I error rate and X is the observed test statistic. The critical value $X_{\text{critical value}}$ is the value from the distribution of the test for which $P(X > X_{\text{critical value}})$. A critical value is used in significance testing. It is the value that a test statistic must exceed in order for the null hypothesis to be rejected.