

Exam topics for Statistics 1

1. Empirical distribution function, the Glivenko-Cantelli theorem
2. Quantiles of random variables and data
3. Measures of center and variation
4. Mean squared error, consistency
5. Sufficiency
6. Maximum Likelihood Estimation and the Method of Moments
7. The Rao-Blackwell and the Lehmann-Scheffé theorem
8. Confidence intervals for large samples
9. Confidence intervals for small samples
10. Two sample confidence intervals
11. Hypotheses testing; types of error, power function, size of a test, p-value
12. Best tests and the Neyman-Pearson lemma
13. Uniformly Most Powerful Tests
14. Generalized Likelihood Ratio Tests
15. Chi-squared tests
16. Kolmogorov-Smirnov test
17. Analysis of variance.