

STA 301 final Term 2011 subjective

1) If $\chi^2 = 1.001$ by fitting the binomial distribution with 2 degrees of freedom, find the critical value. use $\alpha = 0.05$.

2) If we draw a card from an ordinary deck of 52 cards. Can king and diamond be mutually exclusive events? Give reason to support your answer.

3) Suppose that we toss a fair coin three times. What is its sample space?

4) Why we take $B^2 = 3$ as the criteria for measuring the kurtosis of any distribution?

5) Define level of significance?

6) How we decide that the drawn sample is "Small sample" or a "large sample"?

3 Marks

7) If mean of a distribution is 0.925 and standard deviation is 0.132. Find out the limits by applying Chebyshev's inequality for $k=2$. How much fraction of data will lie between the two limits?

8) If $E(XY) = 7.5$, $E(X) = 2.4$ and $E(Y) = 4.3$, calculate covariance of X and Y .

9) Hypothesis testing question then

10) Z-test formula complete kerna then ek (don't have math type to write)

11) Write down the two properties of sampling distribution of proportion p' , when the sampling is performed with replacement?

12) What is natural pairing in observations? Give example.

5 Marks

13) Interpret the concept of five numbers summary and also explain the purpose of five numbers Summary.

14) What is the probability that a poker hand of 5 cards contain exactly 1 ace (hypergeometric dist.)?

15) If $n=11$, $\bar{x}=36.33$, $\text{var}=55.5$, $\alpha=0.10$

Test the hypothesis $\mu > 31$.

16) From the table given below find the value of chi square

Observation Frequency O_{ij}	Expected Frequency E_{ij}
120	100
130	150
80	100
170	150

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