Test 2 Study Guide

201-922-DW (Introduction to Statistics)

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Fall 2015

Discrete Probability Distributions (Homework p. 46-47 # 1-23)

- Describe the properties of a discrete probability distribution
- Construct a probability distribution for certain experiments
- Compute the mean μ and the variance σ^2 and standard deviation σ, for given a probability distributions

Binomial Distribution (a type of discrete probability distribution) (Homework p. 50-51 #1-14)

- Describe the characteristics of a binomial probability
- Compute the mean μ, variance σ^2 and standard deviation σ, of a binomial probability distribution
- Know the formula that describes $P(X)$ where X = # of successes in a binomial experiment
- Use the binomial distribution table to compute probabilities

The Normal Probability Distribution (Homework p.69-70 #1-15)

- Describe the properties of a normal probability distribution
- Use the Standard Normal Distribution N(Z; 0,1) and the z-table to compute probabilities

The Normal Approximation to the Binomial (Homework p. 70-71 #16-24)

- Know what the necessary conditions are in order to use the normal approximation to the binomial to compute binomial probabilities
- Apply the continuity correction to compute binomial probabilities using the z-table

Sampling Distribution of Sample Means & the Central Limit Theorem (Homework p.76 #1-8)

- Explain the characteristics of the sampling distribution of sample means
- Know under what conditions the sampling distribution of sample means is normally distributed
- Compute the mean $\mu_{\bar{x}}$ and the sampling error of the mean $\sigma_{\bar{x}}$
- Compute probabilities related to $\bar{x}$ using the z-table and appropriate mean and standard deviation