Calculus 221, Chapter 12 Summary ~ things you should know

(Note: Some of these topics are optional for instructors, and may or may not appear on your final exam.)

Important concepts:

expected value, variance and standard deviation of a discrete random variable continuous random variables probability density function cumulative distribution function expected value, variance and standard deviation of a continuous random variable exponential probability density functions normal random variables Poisson random variables geometric distribution functions

Be able to:

find E(X), Var(X) and standard deviation for a given set of data.

verify whether a function is a probability density function

use a probability density function to find probability over an interval

find the cumulative distribution function and use it to determine probability over an interval

find E(X), Var(X) and standard deviation for a continuous random variable.

find E(X), Var(X), standard deviation, and probabilities for an exponential distribution function.

find E(X), Var(X) and standard deviation for a normal random variable.

use the normal distribution table of values to find probabilities.

find E(X), Var(X) and standard deviation for a Poisson distribution given the probability density function.

find probabilities associated with simple geometric distributions.

E(X), Var(X) and standard deviation for a geometric distributions.

Review exercises from the text:

Chapter 12 Review of Fundamental Concepts, 1-3, 5-17

Chapter 12 Supplementary Exercises, 1 - 4, 6 - 14, 17 - 28, 31 - 36 (answers to odd-numbered problems are in the back)